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Significant Features of Soviet Military Doctrine

Doctor Raymond L. Garthoff

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THE world strategic picture is characterized by a swiftly moving stream of development of new weapons and military technology; by shifting geographical and political focuses and forms of conflict; and by varying degrees of intensity of the "cold war." One element in assessing this strategic picture which is relatively stable—although of course responsive to the new strategic requirements generated by other changes—is the military doctrine of the Soviet Union. In this article I will summarize certain significant aspects of, first, the bases of Soviet military doctrine; second, the Soviet principles of war; third, Soviet doctrine on the employment of the combat arms; and, fourth, new perspectives in Soviet doctrine.

Five cardinal tenets of Soviet political

behavior and strategy form the fundamental framework within which Soviet military thought is cast. An understanding of these points is essential to a recognition of significant nuances rendering certain Soviet principles of war distinctive from similar Western military principles.

First, conflict is believed to be fundamental and perpetual to the annihilation of the enemy. Second, the Soviets see as an absolute alternative "destroy or be destroyed." Third, the fundamental strategic objective is the maximization of power. Advance is pressed in all situations where Soviet capability is believed to be adequate to seize and consolidate some gain. This "power" orientation does not, of course, necessarily mean that the Communist ideology is ignored, as indeed bolshevism itself requires the maximization of power, ostensibly in pursuit of the higher ideals it falsely claims as its goal. Fourth, great tactical flexibility characterizes the selection of means furthering the consistently pursued strategic objective. Political and military forms of conflict are used in accordance with their anticipated effectiveness as alternative means of maximizing power. (It should be noted that this tactical pliability in implementing strategic objectives is not carried over into the conduct of military

Five cardinal tenets of Soviet political behavior and strategy form the fundamental framework within which their military thought is cast. Although the Soviets are military conservatives, they are also realists

operations, since this would require more delegation of initiative than the top leadership chooses to permit.) Finally, the Soviet leaders tend to see the enemy in their own image, as also believing in the four basic principles mentioned above. In their military doctrine, those hostile objectives they most prize nearly always correspond to the elements they most vigorously defend.

Soviet Concepts

In general, Soviet concepts of military doctrine correspond to those which prevail in the West, with two important exceptions.

First, the Soviets distinguish, conceptually, three categories of the military art: strategy, the operating art, and tactics. The "operating art" is a distinctive category shared only with certain German military theorists. It is defined by the Soviets as a middle position between strategy—the study of the conduct of war—and tactics—the study of the conduct of battle—and is considered to correspond to the organization and conduct of military field operations within campaigns; more specifically, Front (that is, army group) and sometimes army level operations. Levels of maneuver are designated accordingly. Thus, the Soviets distinguish between the counteroffensive, which is the strategic form; the operational—army group level—"counterblow"; and the tactical counterattack.

Second, the Soviets have not enumerated a list of explicit principles of war, as have most other military establish-

ments. The nearest Soviet equivalent is a list of what are termed the "permanently operating factors" which, it is said, "determine the course and outcome of war." These factors were first formulated by Stalin in 1918, and repeated by him in 1942. This authoritative statement has received wide repetition in Soviet military writing, and may now be said to be the Soviet equivalent to principles of war.

These factors, in Stalin's own formulation of them, are: "the stability of the rear"; "the morale of the Army"; "the quantity and quality of divisions"; "the armament of the Army"; and "the organizing ability of the command personnel." These "permanently operating factors" are contrasted to "transitory factors" of which only one has been specified, strategic surprise—the context of Stalin's statement, we must recall, having been the period following the successful German use of surprise in assaulting the Soviet Union. Any attempt to add or subtract from Stalin's enumeration might be construed to imply a derogatory attitude toward Stalin's genius in formulating these principles, and for this reason the list of permanently operating factors has not been extended or refined, with the lone exception of Voroshilov's addition that concern with adequate reserves is "no less important."

It is of considerable interest that these particular factors are elevated to the degree of importance ascribed to them. For example, the stress on the stability of the rear may well betray the fear of instability and unreliability in their own country and, together with the emphasis on Army morale, indicates an acute awareness of the need to maintain strong morale on the front and in the rear, and to weaken the enemy's morale. It may be recalled that the Soviet seizure of power owes much to capitalizing upon the disintegration of morale in the Imperial Russian Army. Emphasis on "the quantity

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and quality of divisions" and "the armament of the Army" indicates a high level of concern for the material means of war and development of appropriate weapons.

Finally, concern for "the organizing ability of the command personnel" is indicative of the special need in the Soviet system to overcome other deterrents to initiative and command. The terms "leadership," "high level of military science," or simply "military ability" are not stressed. It is "the organizing ability," the ability to secure the execution of orders—rather than the initiation of orders—which is emphasized in this particular formulation.

Other principles of war, of equal or even greater influence, exist in Soviet military doctrine. Many of these are explicitly stated to be of great importance. For example, the principles of the offensive, concentration of force, maneuver, and combined arms action are perhaps stressed more than in Western military doctrines. Some significant Soviet principles, such as "the determination of the direction of the main blow," are not considered to be "principles" in the West. The Soviet principles of war will be discussed in greater detail below.

Background Influences

Marxism-Leninism exerted relatively little direct influence on Soviet military doctrine. Marx, Engels, and even Lenin did not specify what Communist military doctrine should be, and Stalin did not—as the Soviets claim—create a new "Stalinist military science." The chief effective influence—and it is very important—is in Soviet foreign political strategy as exemplified in the basic tenets of political behavior cited earlier.

In addition, the unique institution of military commissars—now Deputy Commanders for Political Affairs—and the general attitude toward the exercise of initiative, probably constitute the chief

inheritance from Marxism-Leninism. The influence of the Imperial Russian Army was considerable, despite the initial attempt to renounce all things Czarist, and this influence continues to the present day. Of particular importance was the very large number of former Imperial officers who were trained in Imperial doctrine and remained in command echelons and various positions of military education in the Soviet Army until as late as the 1930s. This group was represented in the strategic planning of World War II in the person of Marshal Shaposhnikov—a former Imperial General Staff colonel—and indirectly in such former students of his as Marshals Zhukov and Vasilevsky. To note one other illustration of this heritage, an exhaustive Soviet survey made in 1929 revealed that of the 100 authors of the 1929 Soviet *Field Regulations*, 79 were former Imperial officers; and of the 243 military men who contributed to military literature in that year, 198 or over 81 percent were former Imperial officers, 38 percent having been of field grade or general rank in the prerevolutionary Army, and 12 percent on the Imperial General Staff.

Foreign military influences came largely as a carryover of Imperial tradition. In particular, the ideas of Clausewitz exercise wide influence. Clausewitz also exerted considerable influence on Lenin, and it was not until 1947 that Stalin wrote that Clausewitz was "obsolete" as a military authority—a propaganda evaluation which should not obscure the fact that many of his ideas continue to be of considerable importance, although camouflaged under such terms as "proletarian," Soviet, or "Stalinist" military science. In addition, German military ideas gained currency through the study of a number of Soviet officers in Germany in the late 1920s and early 1930s, including the future victor of the Battle of Berlin, Marshal Zhukov.

Soviet Principles of War

Soviet military doctrine shares, perhaps stresses most, the preference for the offensive common in most contemporary armies. In the early 1920s, there was a wide debate within the Soviet Army command over whether this was a peculiarly "proletarian" principle, of a different nature from the stress on offensive action held by certain capitalist military establishments. In terms of any nuance on current doctrine we may consider this influence to be negligible, although it certainly contributed in the formative period of Soviet doctrine to the emphasis on the offensive which remains. Not until the publication of the 1942 *Infantry Combat Regulations* was defense explicitly recognized as "a normal form of combat." Immediately prior to the last war, the offensive had been stressed to the detriment of military preparedness for an alternative defensive strategy.

The offense or defense—including withdrawal—is undertaken (at least theoretically) only on the basis of sober calculation of the relation of forces *vis-à-vis* the enemy. In the defense, emphasis is placed on activeness and upon the assumption of the decisive subsequent counteroffensive. There has been a tendency in this country to misconceive the role of the counteroffensive in Soviet doctrine. The many Soviet statements extolling this strategic maneuver—based on the necessarily central significance of this strategy during World War II and echoing Stalin—have sometimes erroneously been assumed to denote a necessity or a preference in Soviet military thinking for this strategy. This conclusion ignores the primacy of the offensive in Soviet doctrine—clearly restated in postwar regulations and manuals—and fails to recognize the Soviet conception of the relation of forces as the determinant of an offensive or defensive posture.

As in the case of the offensive, maneu-

ver was overstressed by early adherents of a "proletarian" military science as a novel doctrinal tenet. Trotsky—who in general opposed the idea of a new proletarian military science—pointed out clearly that although Soviet Army actions in the Civil War had indeed been characterized by considerable maneuver, so also had the opposing White strategy. He noted that this was due, in both instances, to the objective situation, and not to "the inner nature of the Soviet Army," as his opponents claimed. Despite the rejection of a "proletarian principle" of maneuver, this principle of war has been very important in Soviet doctrine. We may note that the Bolsheviks' particular attention to maneuver is related to their strong emphasis on maintaining the initiative and control of the situation. For this reason, perhaps, it is accentuated and idealized. Activity, mobility, maneuverability, and speed are sought, of course, primarily for their intrinsic military advantage; but, in addition, emphasis on maneuver is enhanced to satisfy the Bolshevik urge to gain the initiative in any situation. This, of course, follows from the Bolsheviks' conception of the absolute alternative of the inevitable destruction of either the enemy or themselves.

Soviet military doctrine defines four basic forms of offensive maneuver. They are the frontal blow, the breakthrough, flanking, and envelopment. All have the further aim of encirclement and subsequent annihilation in detail of the encircled foe. These forms of maneuver need no further discussion here except to note that the frontal assault is categorized by the Soviets into two types. One, termed "the crushing blow," lays emphasis on overwhelming the hostile defense by the mass concentration of superior forces and shock power. The second, the so-called "salient thrust" or slicing blow, is a development of the usual frontal blow when one or several deep thrusts completely

penetrate the enemy defense. If there is a distinction between the Soviet salient thrust and the blitzkrieg—which the Soviets strongly criticize—it is that, rather than the rapier thrust of the blitzkrieg, the salient thrust is an adaptation of the blunt, mass, crushing blow to situations where this massive shock force is not necessary, and the momentum of the offensive is better maintained by stress more on mobility than mass, but still combining both. A further difference from the blitzkrieg is the strong Soviet concern with adequate reserves to maintain momentum of the attack. In the future, the "salient thrust" or modified blitzkrieg will probably become increasingly important in Soviet operational doctrine.

We should note especially the Soviet stress on encirclement and subsequent annihilation in detail as the ultimate aim of all maneuver. The Soviets place strong emphasis on flank and rear attacks and upon flank and rear defense. (The Soviet emphasis on encirclement may have been enhanced by observation of the successful German use of pincer movements in 1941, but this maneuver had been adopted independently prior to that time.)

Economy of Force

Concentration of overwhelming force in the direction of the main blow, that is, at the decisive place and time, is strongly stressed in Soviet doctrine. This concentrated superiority over the opposing enemy should be a minimum of 3 to 1, and preferably 6 to 1, in the direction of the main blow. To attain this superiority, strict conservation of forces is observed in other areas. This is reflected in Soviet practice and emphasized in Soviet military writing. For example, in discussing the Stalingrad operation, Soviet military analysts deny over-all superiority—thus raising their prestige for this great victory—but claim a decisive concentration of superior forces in the main directions—

thus supporting fulfillment of their doctrine.

Since the war, an authoritative Soviet military writer has declared that superiority at the decisive point is no longer sufficient, and that over-all superiority must be achieved in order to "ensure success." This may, in part, be a reflection of the fact that even vastly superior Soviet forces frequently had difficulty in defeating numerically inferior German forces. While the emphasis upon concentration of force in itself is hardly an exclusively Soviet doctrine, the Soviets are probably distinctive in considering selection of the direction of the main blow as being the key decision in strategy. Determination of the direction of the main blow is based on a presumed calculation of the relation of forces *vis-à-vis* the enemy.

Surprise and Deception

Although, as we have noted, surprise is said to be a "transitory factor," of less importance than the five "permanently operating factors," tactical and operational surprise is keenly sought. Even though the Soviets would probably not *rely* upon strategic surprise as a guaranty of success, they are well aware here, too, of the importance of attaining a maximum of surprise. The fact that it is termed a "transitory factor" is probably not of operational significance.

The Soviets are keenly aware of the importance of active and passive deception in military—as well as political—affairs. They practice field camouflage on an unusually wide scale. When possible, the enemy is provoked into paths of action desired by the Soviets.

Advance and Consolidation

Emphasis is placed upon maintaining momentum of advance, but the importance of consolidation of gains is not neglected. Momentum of advance is acquired primarily by the maintenance of strong reserves,

which are fed in to gain continuous and systematic victories of increasing magnitude, both within each operation and from operation to operation.

The Soviets press pursuit hard, preferably employing parallel pursuit with the aim of envelopment and encirclement.

Annihilation

All military doctrines seek—in one way or another—to destroy the enemy force, but “annihilation” is stressed with particular vigor in Soviet doctrine, probably because of the emphasis placed in Soviet political doctrine upon annihilation of the foe—meaning liquidation of all hostile, neutral, or other even potentially nonsubservient forces.

The primary influence of the Bolshevik aim of annihilation in military affairs is through the importance of this idea in over-all Soviet political strategy.

Reserves

The Soviets probably ascribe more significance to, and pay more attention to, strategic reserves than do other armies. This, as we have noted, is one of the principles elevated to the level of permanently operating factors. The long-range air force and airborne forces are, in general, treated as a special strategic reserve of the High Command, which also maintains a special artillery reserve.

The Soviets usually attempt to maintain slightly larger tactical and operational reserves than do the Western armies.

Combined Arms

The so-called principle of co-operation or combined arms occupies a role of exceptional importance in Soviet doctrine. A mutually supporting and balanced combined arms team composed of infantry, artillery, tank, and supporting air forces is the basic Soviet military force.

Soviet doctrine emphatically rejects re-

liance on any single arm as being capable of carrying the decisive offensive to victory. Special arms, such as strategic bombing forces, submarines, and airborne forces, are regarded as valuable separate arms, and may even acquire temporary or local predominance in significance; but it is believed that they cannot replace the essential combined team.

The infantry held the key and central role in this combined team at least until 1943—and in verbal doctrine is usually considered to do so now. The 1944 *Field Regulations*, for the first time, did not explicitly state that the infantry had the key and central role. On the other hand, Soviet military press comments on the Korean conflict declared that the North Korean and Chinese Volunteer Forces had again demonstrated the central importance of infantry, as opposed to alleged American reliance on machines, airpower, and special arms. Artillery and, perhaps, tactical airpower in close support missions occupy a proportionately more significant role in this team than in Western field practice. Approximately two-thirds of Soviet airpower is devoted to tactical support by interdiction and close support of ground forces.

The Soviets vigorously attack what they term the “Fuller-Hart-Guderian School” with its emphasis on the mobility and surprise of armored formations, and equally the “Douhet-Mitchell-Seversky” reliance on airpower—especially primary reliance upon strategic airpower, which they regard as one of the chief Western errors.

Leadership, command, planning, and decision-making retain essentially the same functions as in other armies, but the Soviet methods of performing these functions exhibit significant differences. Unity and flexibility of planning by the top decision-making level is purchased at the expense of initiative and flexibility at all intermediate and lower levels of command. Strategic planning eclipses operational

and tactical initiative. Orders prescribe, in the maximum feasible detail, not only what the mission is, but also how it is to be fulfilled, in order to concentrate initiative at the very top level. The general advantages and disadvantages which follow from this are obvious. Leadership and command are thus divided into two distinct levels and forms: the very small, central initiating and decision-making level, and the implementing and executing operational field command level. Implementation and organizing of fulfillment of orders, rather than critical determination and the making of decisions, are the essence of command at the operational and lower levels. The Front—or army group—which is the highest-level Soviet field combat formation, is admitted to have become an *operational* rather than a *strategic* formation during the course of the Soviet-German war. The wartime *Stavka*—general headquarters—was the only group permitted to make strategic decisions and conduct strategic planning, and even the highest levels of field command were greatly restrained in their exercise of initiative. This difficulty was circumscribed in part by the temporary detachment of top *Stavka* planners—notably Marshals Zhukov and Vasilevsky—to assume major field commands for key campaigns.

Stalin's Role

We might, at this point, digress briefly to discuss Stalin's role in Soviet military affairs. He was both the man who co-ordinated strategic and political planning and decision-making, and the myth symbolizing all the accomplishments of the regime under his leadership. He was credited with creating Soviet military science, with the strategic planning and over-all command in the recent war, with developing weapons, with training and selecting officers, and with inspiring the individual soldier. In fact, he showed considerable

general interest in these subjects. However, except for a significant co-ordinating role in strategic planning, his actual accomplishments in these fields were quite limited. Although the evidence is inconclusive, Stalin's role in strategic planning resembled his probable role in the Politburo—that of co-ordinator and ultimate decision-maker. Unlike Hitler, however, Stalin did not override the advice of his best marshals, but rather permitted them to present variants for a strategic plan and then participated as co-ordinator in choosing between the preferences of these military experts. The *Stavka* was a group of 12 to 14 strategic planners, and such cronies and political generals as Voroshilov and Bulganin were not included. It was organized—and effectively—for the conduct of war.

Planning

An obvious point in Soviet military doctrine, as well as in Soviet political and economic organization, is the accentuation on planning and the belief that a detailed plan, and its strict fulfilment, are essential to secure and maintain the initiative and to implement the principles previously discussed. The alternative is expected to be enemy seizure of the initiative and its use to maneuver the Soviets into a position of great disadvantage or even disaster.

As mentioned above, the question of determining offensive or defensive operations—advance, defense, or even withdrawal—and the key strategic decision on the decisive focus in time and location for the concentration of forces for the offensive are determined on the basis of an allegedly scientific calculation of the relation of forces. This vehicle of policy-making does impart a more realistic basis to Soviet decision-making than abstract Marxism; however, because of the inherent flaws in the criteria of calculation and in assumptions concerning the calculator,

it misleads Soviet policymakers by ill-founded claim to total rationality and virtual infallibility. "Chance" is said to be eliminated by this Soviet calculation.

Morale

Although morale is not formally recognized in American doctrine as a principle of war, in Soviet doctrine it is explicitly accorded such a place. The Soviet ideology attributes extraordinary significance to the cultivation and maintenance of morale as being directly related to political loyalty. Morale, in Soviet doctrine, is considered to be political rather than personal, and hence, the means of consciously affecting it differ greatly. In the Soviet view, political education is more important than service conditions. This is, of course, in direct contrast with American doctrine. Indoctrination, surveillance, and terror—the unrestricted use of the threat of coercion to preserve obedience—are the means employed to maintain loyalty and morale.

Employment of Combat Arms

The predominant role of the principle of combined arms action in Soviet doctrine, as described above, should be borne in mind at all times in order to understand and evaluate Soviet employment of the various arms.

Ground Forces

The infantry is said to be the "basic arm" in whose interests combined action is primarily sought. Since the recent war, the Soviets have devoted considerable effort to the modernization and mechanization of their infantry divisions, and have significantly increased their firepower and staying power. Close attention has also been paid to the other combat arms during and since the recent war.

Artillery is termed "the main striking force" of the Army, and prewar regulations required infantry, cavalry, and ar-

mored forces to be supported by artillery at all times. During the war the use of field artillery underwent four major developments: an increase in concentration of weapons; wide use of guns in direct fire from the frontline, and of mortars; an increased use of self-propelled artillery; and the introduction of the so-called "artillery offensive." The "artillery offensive" is an allegedly novel conception introduced in 1942, and represents the uninterrupted support of the other ground forces during all stages of the offensive: preparation, the assault, consolidation, and exploitation and pursuit. Artillery was concentrated in separate regiments, divisions, and even corps and armies, to permit maximum strategic flexibility in assignment by the High Command.

Soviet armored formations, unlike American and British—but similar to German and French—are divided into two categories—mechanized divisions and tank divisions. The mechanized division corresponds more nearly to the United States infantry than to the United States armored division, and is used for exploitation of success and pursuit. The tank division is tank-heavy by American standards, and is used primarily for shock action in making a breakthrough of a strong enemy defense line.

Since the war the Soviets have been increasing the number of mechanized divisions relative to tank divisions. From a wartime ratio of 10 infantry to 1 armored, mechanized, or tank division, the ratio has fallen to almost 3, or 2 to 1, since armored formations were not demobilized and infantry divisions are being mechanized. Especially since 1944, there has been a strong tendency to use tanks in mass. Self-propelled artillery is used to give flank and rear protection to tanks in the advance.

Cavalry continued to prove useful to the Soviet Army in the recent war, and this arm remains in the present Soviet Army. Horse cavalry proved useful both

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for independent action and in combined action on the enemy's rear and on his flanks. It is considered to be a supplement to—not a weaker substitute for—tank and mechanized forces, and to be valuable under conditions of terrain, weather, and logistics unfavorable to armor.

Air Forces

Soviet airpower is divided into six independent air forces corresponding to particular missions. They are: the air force of the Soviet Army; the naval air force; the long-range (strategic) bomber force; the interceptor fighter force of the air defense command; the aviation of the airborne troops; and the civil air fleet. Although there has never been an independent air force establishment such as the United States Air Force, the Soviet Army Air Force enjoys substantial autonomy. Each of the air forces is under the Minister of Defense.

Army Air Force

The Air Force of the Soviet Army (VVS-SA), composed of fighter, attack, reconnaissance, and light bomber arms, constitutes about two-thirds of Soviet aircraft strength. It has the missions of gaining air superiority, and of tactical interdiction and close support of the ground forces. The Soviet tactical air force has its independent channels of command through the army group level. The Front—army group—commander, almost invariably an infantry general, plays the main role in determining the employment of tactical air forces for interdiction or close support. The air commander participates in this planning as his deputy for air, and actually commands the tactical air army. Air force officers—in direct command of the air formations—advise the ground commander and carry out the decisions agreed upon. These air commanders, or their deputies, control their units from the ground during battle, in

response to requests of the ground commander for air support.

The use of close-support tactical air-power as "long-range artillery" seemed natural to the Soviet ground, and air force, officer in World War II. Even the bomber arm of the Army Air Force in World War II had as an explicit mission "strengthening the action of artillery on the most important objectives of the defense zone of the enemy." During the recent war Soviet doctrine formulated the concept of the "air offensive" (similar to the "artillery offensive"), a term which signifies the intensified use of aviation for close support of the infantry-armor advance in all stages of the offensive: preparation, the assault, consolidation, and exploitation and pursuit.

Long-Range Bombers

The Soviet long-range bombing force (ADD) is independent of the Army Air Force. An early Soviet air force preference for the bomber arm was sharply reversed, perhaps coincidentally, by the purge of many leading bombing adherents in 1937. The record of the Soviet long-range bombing force in the recent war was not impressive. It was used primarily for interdiction strikes, and attempted very little strategic bombing. Long-distance night raids were usually unescorted; the daylight strikes were usually conducted with fighter escort. The long-range force, both during the recent war and now, is favored in service conditions. Past weaknesses of development and post-war stress on strategic bombing may be seen by the fact that, in late 1947, the official newspaper *Red Star* announced the opening of a 1-year campaign for the best "Aviation Manual for Long-Range Operations." Despite depreciation of American strategic bombing, the Soviets have devoted significant effort to building up their own capability. The Soviet recognition of the importance of this arm

has grown as they developed atom and hydrogen bombs.

Airborne Aviation

The Soviet airborne forces (VDV) are an autonomous headquarters planning agency of the Ministry of Defense. In wartime, the VDV would be assigned the necessary complement of transport aircraft and troops. Airborne forces have the missions of supporting ground forces in encirclements, creating diversion in the enemy rear, seizing junctions and bridgeheads, destroying enemy air bases, and assisting amphibious troops.

Air Defense

Air defense (PVO) is vested in an autonomous administration of the Ministry of Defense. The PVO is composed of an Air Observation, Warning, and Communication Service (VNOS) embracing all means of observation and warning; the fighter interceptor arm; and the antiaircraft artillery. The mission of this service is strategic air defense of the Zone of the Interior of the Soviet Union. As late as 1949, fighter interception was considered the chief means of air defense. According to Soviet figures, interceptors accounted for 68 percent of enemy planes destroyed by the PVO in 1944. The Soviets treat the PVO as an elite force, and, since the close of World War II, have placed considerable effort on developing their interception capabilities. Co-ordination between interceptors and antiaircraft artillery is achieved by means of joint planning on the basis of a grid system of zones. Antiaircraft artillery usually is disposed in circles around the area or point to be protected, and curtains of fire, rather than aimed fire, were relied upon in World War II.

The civil air fleet (GVF), even in peacetime, is subordinated to the Ministry of Defense. Its transport aircraft are assigned or used as needed in wartime by the ADD and VDV.

The Soviet Navy was independent of the Army during the recent war until 1946, and again from February 1950 until March 1953. Its chief components are the four surface fleets, the submarine fleets, naval aviation, coastal artillery, internal (river and lake) flotillas, the so-called "naval infantry" (marines), naval bases, and certain fortified coastal areas. The Soviet Navy has the missions of defending its own sea coasts, sea communications, and the littoral flanks of the land forces, and of attacking the same elements of the enemy force. The chief mission is combined action with the land forces, supplemented by the offensive action of the submarine and aviation arms. The marines are used for defense of coastal areas and installations, and for amphibious operations (as the assault echelon in large-scale operations also involving trained Soviet Army units). In recent years the Soviets have placed emphasis on the procurement of a powerful submarine fleet, and have also constructed a number of cruisers and destroyers.

Partisan forces were used in World War II to harass the enemy's rear, for interdiction, to provoke the enemy to harsher occupation policies, to gather intelligence, for diversion, for propaganda value, as a visible means of retribution to potential collaboration (in occupied areas), and to conduct pro-Soviet propaganda. Emphasis is placed on centralized control—in World War II from a headquarters in Moscow with air liaison and supply as the chief means of this control.

The strategic position of the Soviet Union changed profoundly as a result of World War II. The elimination of the German and Japanese military power—at least for some time—and the accretion to the Soviet bloc of the resources of Eastern Europe and China marked significant improvements in the Soviet position. The dominating fact of change, however, is the location of the new center of poten-

tially opposing power across the seas in North America. The Soviet Armed Forces which previously succeeded—a massive combined infantry-artillery-armor-tactical air team—are manifestly unable to defeat or neutralize this new center of power. This fact, buttressed by the initial American monopoly—and subsequent superiority—in atomic weapons and delivery means, has probably served as the chief deterrent to Soviet expansion by force of arms.

In strategic air offense and defense systems, the United States—if not her Western European Allies—possesses significant advantages over the Soviet Union. The range from advanced United States Air Force bases to objectives in the Soviet heartland is very much less than the distance from Soviet bases to the United States urban-industrial centers. The geographical advantages are, at present, further underscored by the United States qualitative and quantitative technical advantages in appropriate offensive aircraft, and in the stockpile of nuclear and thermonuclear bombs.

We have seen that Soviet military doctrine has placed emphasis on a combined arms tactical team. This weapons system, which corresponded to the strategic requirements of World War II, clearly does not satisfy all the needs of warfare in the essentially altered strategic context. Although the forward bases of the non-Communist world—in the European and Asiatic periphery—are in substantial degree subject to assault and even defeat by the tactical ground-air-sea team, the Soviet strategic planners are faced with the requirement to neutralize, if indeed not to annihilate, the transoceanic arsenal and headquarters of the free world.

The Soviet strategic concept is being modified to accord with the implications of this change in strategic requirements. The Soviets have displayed their interest and intention to develop air and sea offensive (and defensive) capabilities suitable to intercontinental warfare. This modification has, nonetheless, so far occurred primarily *within* the framework of the old military doctrine and organization. The new arms—most notable strategic or long-range airpower—have complemented, rather than superseded, the tactical combined arms team. The Soviet military establishment continues to maintain and modernize the weapons system which proved its effectiveness in World War II, as well as to develop components for a new weapons system. From this we may conclude that the Soviets are preparing both for possible unrestricted global nuclear warfare and, alternatively, for possible wars in which nuclear and thermonuclear weapons are either entirely excluded from use or used only tactically against combat military objectives. Statements by Soviet leaders and in the Soviet press in recent months have disclosed an increased awareness of the significance of nuclear warfare—and an effort to establish mutual restraint from the use of such weapons in war by mutual deterrence.

The Soviets are military conservatives—but they are also realists. While the future will inevitably bring additional changes in Soviet military doctrine based upon strategic potentialities and requirements of new weapons and geopolitical alignments, we must remember that these changes may not correspond to particular changes we have made and will make in our own Military Establishment.

NO SURRENDER

Lieutenant Colonel John E. Olson, *Infantry*
Battalion Commander, 350th Infantry Regiment, Austria

The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

OF THE many lessons that have come out of Korea, perhaps the most important and far-reaching is the folly of surrender. We are a peace-loving nation with a strong sense of fair play. Although we have played a leading role in the major wars of the twentieth century, fortunately—or perhaps unfortunately—as a people we have no real conception of the unspeakable horror and holocaust of war. We are too prone to regard it as a contest of strength waged in accordance with certain fixed rules of conduct which resemble those of the famous Marquis of Queensbury. That we still cling to this romantic concept of war is only natural. Fate has spared us the devastation, the misery, and the suffering of war on our own soil.

For over 50 years the civilized nations of the world—through the means of international law and agreements—have strived to confine the horrors and sufferings of war to the battlefield. The Hague and Geneva Conventions have prescribed national rules of conduct designed to protect noncombatants. The wisdom and humanity of these moves are unquestioned.

Unfortunately, their implementation depends upon the adherence of the warring nations, and Korea has proved that while some nations pay lip service to the letter of the agreements, they ignore the

spirit of them. We, as a nation, bend over backward to abide scrupulously to the letter and the spirit. It is right and natural that we do so, since our Nation was built and has thrived on the belief in the fundamentals of human rights. However, such has not been the case in some nations of the world and it is too much to expect that it will be so in the future. How, then, are we to conduct ourselves in any future war against a nation or nations who completely disregard the basic principles of humanity and individual rights? As far as our treatment of the enemy personnel is concerned, the answer is easy. We will continue to abide strictly by the rules of land warfare and conduct that have been laid down in past agreements. To do anything else would be to renounce the basic principles on which our Nation and our society have been built. That this respect for the individual is a tremendously powerful force has been demonstrated not only by the great heights we—as a nation—have achieved, but by the great mass of prisoners in Korea who—after being exposed to democracy and fair play in our prison camps—refused repatriation to the Communist control.

The Problem

The great problem posed for us is what can we do to offset lack of adherence to the rules of land warfare by the enemy. It is not the purpose of this article to deal with this subject in its broadest aspects—that of national indoctrination. That is a subject for treatment by our national information and education agen-

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cies. That there is pressing need for alerting our people and presenting to them the stark realities is unquestioned. It can and should be done. Our salvation may well rest upon such a move. However, what we are concerned with here is what should be done in the Army—particularly by the leaders at all levels to reduce the impact of this threat to our existence.

War is like a game of chess. Its purpose is to destroy or remove the enemy's will or means to fight. In chess we render impotent, kill, or capture sufficient of the opponent's pieces to force his ruler or king into a position from which the only escape is death or capture. In war we follow the same pattern; we destroy or capture his means to fight, his men and his matériel, and force his rulers or leaders into a position from which the only outlets are death or surrender. Our opponent is, of course, striving to do the same. We cannot begin to cover the destructive means which may be employed. Instead, we will confine our discussion to the subject of surrender and the effects of such an action on our will to fight.

International Law

In past wars a man captured represented a man lost to the fighting forces of one side with the consequent weakening of that side's means to fight. He also represented both a problem and a gain to the capturing forces. He was a problem in

were captured—the prisoners were a greater burden than they were a help, if the capturing power adhered to international law.

In World War II, we found ourselves opposed by Japan, a nation which had not been a signatory to the Geneva Convention. While the Japanese made token show of following the accepted conventions, the figures show grimly the results. Of some 17,000 Americans who surrendered on Bataan and Corregidor, only a mere 5,000 lived through the 3½ years of captivity. What happened to the 12,000 who failed to return? They died in many ways. Some deaths can be attributed to failure on the part of our people and our Army to prepare them properly to survive under such conditions; but, most died because of the brutality, starvation, and lack of medical treatment by their captors. This story was repeated in Korea to an even greater degree—as we are still learning.

Futility of Surrender

Korea has produced an even more appalling aspect of the folly and futility of surrender. Today, a prisoner in the hands of the Communists represents not only a loss to our forces and a source of slave labor to the enemy, but also he may represent a deadly *subversive missile* that may be used against us. Prisoner exchange may return to us the body, but does it return the soul? Do we get from the en-

That a prisoner of war camp is a safe place to "sit out the war" is a myth. The struggle for survival, the envy, greed, and distrust encouraged by enemy guards destroy the character of all but the strongest

that he had to be fed, clothed, sheltered, and guarded. He represented a gain in that he could be required to work, thereby releasing an individual of the capturing nation for more valuable labor or for military service. Basically, however—unless entire armies or other major units

emy loyal, staunch, courageous Americans, more determined than ever to support and protect our Nation and our way of life? Or, among those returned, do we get some "brain washed" automaton who, while outwardly rejoicing at their liberation and eager to return to home and

loved ones, are inwardly primed to strike and betray all they formerly held dear, when their Communist "brain-masters" command? Time alone will tell. God grant there will be few, if any, of this latter type. But when a man of deep, intense, and proved intelligence, loyalty, courage, and devotion to God and country, such as Major General William Dean, admits that he attempted suicide because he feared his resistance to the enemy's physical and mental torture might crumble; when the mind and instincts of the strongest and most devout of prelates, like Cardinal Mindszenty, can be twisted and broken, we must train our men to recognize there can be "no surrender."

Indoctrination and Training

No doubt many of those who read this article may be confounded by the thought that we should never entertain ideas of the surrender of individuals or groups. Yet, it is inescapable. This does not mean that we should die because we have nothing to live for—as is so often the case with the soldiers of the totalitarian nations. Rather we should be ready to die that others may live and continue to enjoy the way of life we love.

Acceptance is mainly a matter of indoctrination and training. We are all acutely aware that we have much for which to live.

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Self-preservation is one of the basic instincts. As all who have been in combat know, there is a point which even the coolest, the bravest, reach beyond which one can endure no more. Escape from the terrifying sights and sounds may take one of several forms. One man may be filled with a mad, unreasoning urge to close with the enemy, to destroy the source of this inferno that is driving him out of his mind. From this type sometimes come acts of extraordinary heroism; more frequently, however, only unnecessary casualties.

Another may be consumed with such an uncontrollable fear that his one thought is to flee as far from the battle as possible. *Sauve qui peut* is uppermost in his mind. He does not, of necessity, desire to shirk his duty; he merely wants to collect his scattered wits, to get a grip on himself, and return to fight another day. He feels that his presence at this point is of little moment in the over-all conflict; he will be of more value tomorrow when he may be better able to cope with his situation. On the other hand, the man may become completely paralyzed mentally and physically. He becomes rigid, staring with glazed unblinking eyes—oblivious to friend and foe alike. Lastly, the man may throw down his arms and give himself up in the vain hope of avoiding further mental or physical suffering.

What can the Army do to prevent cases such as these—particularly the last mentioned? The answer is indoctrination and training. There must be indoctrination in that for which we are fighting. This must not take the form of brain washing or idealistic vacuous verbiage, but rather of presenting realistic, cold, hard facts. Training must emphasize how best to contribute as an individual to the goal we all desire—the defeat of any enemy who threatens our democratic way of life.

Psychiatrists, students of leadership, and proved leaders all agree that moti-

vation is the key to development of a good fighting organization. *Esprit de corps* causes men to make tremendous sacrifices—even the supreme sacrifice. The cemeteries of World War II and Korea bear mute testimony that Americans are not afraid to die. But the question is often asked—did they know for what they died? With regard to the dead of World War II, the answer, as a rule, is “yes.” Our territory was attacked; our countrymen were killed without provocation. With regard to Korea, the answer, unfortunately, was more than often “no.”

Was this because the Armed Forces failed in their Troop Information Program? In some instances this may have been the case. Basically, the failure lay with our people. Although few, if any, felt that World War II had rid us forever of the threat of war, we refused to believe that war would come again in our lifetime. World War II had found some 14 million of our men and women in uniform. Millions of others had made sacrifices. Those who had done their parts felt they deserved to be allowed to relax and enjoy the peace and freedom to pursue their individual ways. We refused to accept the intrusion that Korea represented. Although we freely admitted that the seizure of the Ruhr, the invasions of Manchuria, Austria, and Czechoslovakia were but steps toward our involvement in World War II, we would not accept the fact that the invasion of South Korea was a step toward our involvement in World War III.

We freely condemned the British and the French for not adopting a firm attitude toward Hitler and challenging his expansion even at the risk of war. Yet, in 1950, when our President accepted the Communist challenge in Korea, we wanted to hide our heads in the sand and say that what was happening in Korea had no relation to our national welfare and survival. Even today—after the sacrifice

of thousands of lives and undeniable proof that the invasion of South Korea was a planned Communist step on the road to ultimate world domination—many of us are still prone to say, “Korea was none of our affair.”

If we have another war, there is little doubt that the majority of the men in the Armed Forces will be strongly motivated to fight and fight desperately. There will, however, be some who will be reluctant or indecisive. These men will be the problem in every unit. Specific attention must be given by leaders of all units to the task of motivating these individuals.

Lieutenant General W. B. Palmer, in an address delivered to the Armed Forces and subsequently printed in the *Army Information Digest*, reduced the ideas with which all men must be imbued to a clear-cut three.

1. They must understand “that they cannot be quitters.”
2. They must believe “that they are engaged in a worthy cause.”
3. They must be convinced that they (as individuals) are “doing something important.”

Here we find no beating around the bush, no weasel words, no chance for misinterpretation. In straight-from-the-shoulder, blunt language are stated the vital requirements for the survival of our way of life. They *cannot* be challenged. We might add one more idea which is certainly implied in General Palmer's remarks—each man must be made to realize that war in any form is an ugly, unpleasant business. He must be physically and mentally conditioned to hardships and must accept them as the rule rather than the exception. While every effort should be made by leaders to supply what comforts they can to their men and to improve their welfare, anything beyond that—food, clothing, and equipment which are necessary to keep the individual in first-

class fighting trim—must be regarded as luxuries. Such morale matters as leaves, rotation, exchanges, and special services, while desirable, should not be regarded as rights, but as privileges. The high standard of living we enjoy in peacetime cannot and need not be carried onto the battlefield.

Along with the indoctrination of the man on the importance of the job which he is doing must go indoctrination and training of leaders. Men who are ordered to hold a hill at all costs—regardless of what overwhelming force the enemy may throw at them—must believe in the necessity for the order and have faith in the decisions of the leaders who issued the orders. This belief and faith must not be based on blind, unreasoning obedience, but upon the demonstrated skill and judgment of the leaders. Leaders must never needlessly sacrifice their men for unimportant objectives, but they must be able to expect that their men will hold until death, if it is necessary.

Leaders must be honest and informative with their men. False hopes and false promises soon undermine the morale of the best of soldiers. The men on Bataan in World War II—although weakened by starvation and disease—held out for 4 months, in spite of the fact that the high command knew that relief was virtually impossible. Throughout this period the beleaguered garrison was buoyed by the hope of relief in the form of the "Victory Convoy" which was always just "a few days away." When the final Japanese drive was made, it succeeded not so much because it was so powerful or so well executed, as because the starved and diseased defenders had lost hope. Too many had lost the will to fight. They learned too late that they were not to be relieved and they had not been mentally geared to the thought of fighting to the bitter end. Had the 50,000 Americans and Filipinos who surrendered been able to look into

the future and see that less than one-third of their numbers would survive the Japanese prison camps; had they been told the brutal truth that relief was extremely doubtful, but that every casualty they could inflict, every day's delay of the Japanese southward advance they could exact was of vital importance to the over-all conduct of the war, there is no question that the Japanese assault of April 1942 either would have failed as had the others, or would have been more costly than the Japanese ever dreamed.

Esprit de Corps

As previously mentioned, *esprit de corps* is essential to any fighting organization. *Esprit de corps* means putting the unit above the individual. This is frequently hard for us as Americans. We learn from birth our great heritage of freedom of the individual and of the inviolability of the individual's rights. What—unfortunately—is not stressed is our individual responsibilities. Although we emphasize this trait in our sports, the public is prone to overlook it. Teamwork is essential in football, yet the men who throw the blocks and make the holes seldom receive popular acclaim. Someone must do these jobs so the backs can run and so the team can succeed. Every year thousands of boys go out on football fields and struggle fiercely with no complaints and no acclaim that others may become heroes. They relinquish their individual desires for glory to ensure victory for the team. This same spirit must exist on the battlefield. As it was so aptly put during the early days of our great Nation's struggle for existence, "We must all hang together or we will all hang separately." Our leaders at all echelons of command, particularly at the lower echelons, must imbue their men with the thought that they cannot let down the team. The ammunition bearer is as important as the gunner or the squad leader. No matter how rough things may be, he must keep going.

Missing or Captured

Experience factors from World War II indicate that approximately 13 percent of the casualties were missing or captured. Figures from Korea will, doubtless, show the missing and captured as even greater. We must make certain that in any future war the figure is far below that of World War II.

While we have stressed the necessity for not being captured, there will, of course, be some who, because they are wounded or surprised, will fall into enemy hands. It must be the duty of all who are captured to attempt to escape at the first opportunity. Although death may be the penalty, the risk must be taken and taken early. The longer the man waits, the longer the enemy has to reduce his mental and physical capacity to escape. There are few places where even the strongest men disintegrate physically, mentally, and morally as rapidly as in a prisoner of war camp.

That a prisoner of war camp is a safe place to relax and "sweat out the war" is a myth. The majority of those who are fortunate enough to be alive at the conclusion of the war will have external or internal scars that they will carry to their graves. Some may never recover physically; others will never be the same mentally; and still others—in many ways

the most tragic—will be morally finished. The struggle for survival, the envy, greed, and distrust that are bred by the conditions and encouraged by the enemy guards destroy the characters of all but the strongest. While many unselfish acts are performed by men of good faith, the men who perform these deeds more than often fall victim to the greed of others.

The Future

"If there be war, let it be in my time, that my children may have peace." These words by Thomas Paine should be the slogan of every adult American male today. We do not want war. No one feels that more strongly than one who has witnessed the horrors and sufferings to which everyone, even the victors, are subjected in war. But the war to end all wars has yet to be fought. When it is, we must be sure that we are the victors. In order to achieve victory we must face the issue squarely and accept the sacrifices ourselves. Only then can we be sure that our children will have peace.

Let no one be misled. As it is so aptly put in the ninth verse of the fourth chapter of Lamentations, "They that be slain by the sword are better than they that be slain with hunger." Death on the battlefield is far better than the living death of an enemy prison camp. Let our watchword be "No surrender."

It is axiomatic to state that no profession, and especially the military profession, is any better than its leaders. National defense in any nation requires the highest professional military competence. The stakes are national survival. None can be higher.

It has been stated that "men think as their leaders think." Before men can function effectively under the stress of battle, they must be taught not only what to think about their tasks, but how to think about them. As great an effort must be devoted to training their minds as to building their bodies, for leadership is exerted upon the mind.

General Charles L. Bolte

Communist Frontiers Are Vulnerable

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The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

THE old conference hut at Panmunjom made an ideal schoolroom in which United Nations Armistice negotiators could learn about practical communism. The two worlds within that hut were divided by the long green cloth covered table on which symbolically stood the blue flag of the United Nations and the red-striped ensign of the Korean People's Republic. One world was the Communist police state—the other, that of free men.

Across the table from us were our teachers, Colonel Ju of the Korean People's Army and Colonel Hsiu of the Chinese People's Volunteers. The square-faced, stolid Ju, wearing a green hued jacket topped with imposing shoulder boards, sat beside the urbane Hsiu, dressed in formless sackcloth which seemed to belie his western education. Both were veterans of the long truce talks. Behind them were stationed secretaries who, from their appearance, were there for business reasons only.

In the distance—beyond the nearby Peace Pagoda—the saw-toothed Korean mountains jutted into the sky. Outside marched the omnipresent Communist security guards in white baggy uniforms decked with red brassards, each carrying a rifle with bayonet.

Here the square-jawed Ju and his Chinese mentor, Hsiu, conducted their class in practical communism, under the watch-

ful eyes of an armed guard. Our instructors were logical and precise.

The meetings held by United Nations staff officers on the Headquarters of the new Military Armistice Commission provided the material for the course. The truce talk site at Panmunjom—now entirely within the Communist side of the Armistice buffer zone—could not be the permanent meeting place of the newly created Armistice Commission. Finding a new location for the Headquarters close to Panmunjom but astride the military demarcation line was a simple problem. But gaining Communist consent to use it was something different. The Communists were chiefly worried about "the security of the Headquarters area."

The location seemed to us more important than providing police to guard it. No armed personnel of either side were allowed in the demilitarized buffer zone. There was no possible danger confronting the Armistice delegates where the Headquarters was to be. Yet, the Communists were afraid of something. Before we could discuss specific building sites, the question of security had to be settled.

Communist Security

Security, for Communists, is a complicated matter. It is never taken for granted; it is always planned. We felt each side could guard its own part of the buffer zone. The Communists considered freedom of movement of their security force on both sides of the military demarcation line, within the Headquarters area, to be essential.

"Our side considers," stated Colonel Ju, the principal spokesman, "that we cannot

consider the matter of construction of the Headquarters and the matter of security measures within the Headquarters separately." Questions as to locations and building facilities continued to be waved aside: "In order to proceed with the problem of the construction of the Headquarters expeditiously," Ju intoned, "both sides must endeavor to reach agreement regarding the problem of security measures."

The Communists would not feel secure unless the new Headquarters were in an area that would be guarded by both sides jointly. The United Nations suggestion that each side guard its own side of the demarcation line was rejected. Colonel Ju stated:

According to your logic the security officers and the Military Police sent by each side will protect the facilities on the military demarcation line. Your proposal carries extremely unnecessary restrictions regarding maintenance of security; we cannot discuss and agree upon it.

We never learned from Communist Ju what these unnecessary restrictions were, although many meaningless explanations were offered. Colonel Ju advised:

From my 2 years experience at Panmunjom freedom of movement of the security personnel of both sides within the area is the only necessary condition for carry-

Those living under Communist control cannot be permitted to escape from it. If we capitalize upon this knowledge, it may be worth the price we paid to meet in conference with the Communists at Panmunjom

ing out the responsibility for maintaining order. For the maintenance of order and security in the Headquarters area, which will be built, the security personnel of both sides should have the right to move freely and cross the demarcation line and control the area jointly.

The Problem

For once the Communists were advocating freedom of movement across a frontier line. Communist borders are usually sealed to prevent such crossing. Yet Communist logic lay behind this paradox. During the truce talks at Panmunjom, several Communists—exposed to United Nations contamination—had defected, escaped from their control, and found political asylum. The Communists knew that during Armistice session more North Koreans and Chinese could be contaminated. If defectors merely had to cross a line and claim asylum, escape might become contagious.

The Communists believed that defectors could be prevented if the Headquarters buildings were placed in the center of a joint security area, which would permit their security police to maintain a "catch-all" screen several hundred yards south of the demarcation line. If a man bolted to freedom from the conference site, he could still be picked up by Communist security police before reaching United Nations controlled territory. Any suspicious movement of a Chinese or Korean Communist from the center of the area in the United Nations direction could be immediately spotted. With controls, the Communists believed, a joint security area could be made defection proof.

The arrival, in early September, of the Indian component of the Neutral Nations Repatriation Commission—the agency set

up to process those war prisoners who did not want to go home—helped settle the matter. We had already built our share of conference buildings for the Military Armistice Commission at the new Headquarters site, about a mile southeast of Panmunjom. We had also put up some

tents for United Nations Secretariat personnel. The Repatriation Commission needed office facilities in a hurry. Since the Indian component to this Commission had been invited by both sides, their offices and living quarters would have to be built on both sides of the demarcation line.

We were willing to horse trade. If Colonel Ju would agree to a location so that the facilities we had already built could be turned over to the Indians, we were willing to agree to a joint security area. The Indians, ourselves, and even the Communists were pleased.

"Our side thinks that this is the most suitable site for the construction of the Headquarters of the Neutral Nations Repatriation Commission." But, asked Colonel Ju, "How is the security going to be jointly safeguarded?"

When told that we would agree to a joint security area, Colonel Ju replied,

It is almost the first time we have had such welcome information for the construction of the Headquarters. If this goes on in this way, we can soon reach agreement.

But Ju continued:

One thing I must make clear is that there must be sufficient distance on the south side of the entrance route. Because, should our armed security personnel have trouble with a car or should they not make a curve properly, they would take more than the limit and it would not be good at all.

We asked him to define a sufficient dis-

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tance in meters. "Our preliminary consideration," Colonel Ju replied, "is that it should be about 100 meters." Colonel Ju was not concerned with a vehicle running off the road. He was worried that Communist delegates might be closer than 100 meters to United Nations territory without their guards present to watch over them.

When we conceded that the boundary could be 305 feet south of Panmunjom road, the security problem on which we had argued for a dozen meetings, was settled. For a moment the bars were let down. The Communists were obviously pleased. Today, the Military Armistice Commission and its agencies meet in this jointly guarded area.

Likewise, the preliminary Korean political conference met under the dual protection of Communist and United Nations security police.

The next day, following our agreement with Colonel Ju, the Communists began to construct three buildings alongside, similar to those the United Nations had already built. United States Army Engineers had been working there several weeks. Although working adjacent to the demarcation line, no guards had been provided for their protection. They were not needed.

However, the Communists could not get along without them. On that day some of us flew over the site in a helicopter to Panmunjom. A hundred feet below we saw a column of several hundred Chinese construction workers marching from the north toward the new Headquarters site carrying picks and shovels on their shoulders. At the head of the column and on both sides marched the ever-present Communist security guards. The Communist laborers looked like members of a chain gang. The spectacle of workers of the People's Democracy, under armed escort, somehow brought home all of Colonel Ju's lessons on security.

The constant need for the Communists to guard their labor battalions was even more dramatically illustrated in November when three Koreans, pursued by Communist guards, flung themselves on the mercy of United Nations Military Police stationed within the Armistice Commission's Joint Security Area. This was one event the Communists had not expected. Through interrogations we discovered that these men were captured South Korean soldiers who had been impressed into service with the North Korean Army. The Communists demanded the immediate return of these men, threatening most serious consequences if we refused to comply with their requests. When instead we gave them asylum, the Communists seemed to regard the escape of three simple soldiers from their control as dangerous to them as the fuzing of a time bomb which might eventually blow their system apart.

The Lessons

Can we profit from these lessons? Colonel Ju's first lesson is that people living under Communist control cannot be permitted to escape from it. They must normally be kept from frontiers. If special reasons require Communists to mix with the enemy, particular security arrangements must be devised to keep them under control.

The Headquarters of the Military Armistice Commission in Korea consequently was guarded in a special way.

The second lesson is that Communists are more afraid of giving their people freedom to move across boundaries than of any weapon we possess. Will we capitalize on it? If we do, Ju's classes may be worth the costly price of war we paid in order to meet with him in the conference hut at Panmunjom.

None should doubt that the Soviet rulers still seek world domination. The recent four-power conference at Berlin served strikingly to demonstrate that the Communist leaders cannot reconcile themselves to human freedom and feel that, because freedom is contagious, they must try to stamp it out. This basic incompatibility of communism with freedom drives them always to seek to extend their area of control. This is not merely due to lust for power but to genuine fear of freedom.

It is true that the Soviet leaders are professing a desire for peaceful co-existence in Europe. But, as the Berlin Conference revealed, the Soviet rulers will take no step however little to relax their grip on their captive peoples. Not only do they keep Germany divided and Austria occupied, but they seek by every device to extend their power to Western Europe. They seek to perpetuate divisions, notably between France and Germany, which cannot possibly serve anyone who genuinely seeks peace. They seek, by infiltration, to disrupt the unity and strength of NATO.

Secretary of State John Foster Dulles

Decision in the Face of Defeat

Colonel Alexander D. Surles, Jr., *General Staff*
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The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

WHAT is a "decision in the face of defeat"?

Possibly the most famous such decision was that attributed to Marshal Foch during the Second Battle of the Marne: "My right has been pushed back, my center is giving way, I shall attack." This statement of the problem is dear to the hearts of American soldiers, nurtured as they have been in the spirit of the offensive. This preoccupation with the offensive is born in our history, in the exploits of Mad Anthony Wayne, Robert E. Lee, J. E. B. Stuart, Stonewall Jackson, and George S. Patton. The offensive has served our country well.

Certainly, our impressive series of victories in Europe in World War II was marked by the rapid movement, bold maneuver, and brilliant improvisation so characteristic of the accepted military doctrine taught in our service schools. However, it must be remembered that these victories were achieved with a tremendous superiority of means—tanks, tactical air, and ammunition—on our side. At the same time, there was a general disregard of the requirements of defense. Usually no reserve position was selected, much less prepared; dispersals and camouflage were normally ignored; our main supply roads were frequently clogged by tremendous traffic jams of vehicles, bumper-to-bumper and

immobile. When the enemy was able to assemble sufficient forces to achieve local superiority, he was able to convert this habitual carelessness into defeats which were more costly in personnel and material losses than the situation warranted. The experiences of the early days of the Battle of the Bulge should have impressed us with the dangers inherent in the failure to give sufficient attention to situations in which the enemy has superiority of means. Yet, 6 years later in Korea, we again committed the same errors of omission and commission, and, as a result, came dangerously close to being pushed out of Korea by the onrush of the Chinese Communists. It must be emphasized, also, that in our operations against the Chinese, we had complete control of the air.

World War III

In the early stages of World War III, we cannot expect favorable conditions. Our forces in Europe will undoubtedly be attacked by surprise, and will be operating against an enemy who—certainly in many cases—will have superiority of means. If this concept is accepted by our military thinkers—and it is so widely believed as to be almost incontrovertible—our Army must be trained in advance to operate under unfavorable circumstances; to be able to roll with the punch; to understand the art of the retrograde movement; to know the doctrine of the breakout from encirclement; to appreciate the value of resupply by air; to practice constantly the improvement and improvisation of communications; to accept the decentralization of command; and, above all, to withstand the mental shock of local

defeat, loss of ground, and extended withdrawals.

This is a subject which requires immediate and definitive consideration by all commanders. I should like to delineate the problem area in some detail; first, by discussing the difficulties which might beset a commander forced to make a decision in the face of defeat; second, by suggesting certain changes in concept, doctrine, and organization which could eliminate some of these difficulties; and, third, by determining how a unit which has been defeated may be rehabilitated by a resolute and imaginative commander.

The Situation

The troubles and vicissitudes of American troops operating under unfavorable conditions—although well-known by many professional soldiers—are likely to be ignored in the writing of military history. An analysis of experiences in actual battles—particularly when most of the participants in those battles are still alive—leads to recrimination and dispute, to excuses and explanations that becloud the lessons to be learned. It is more useful for our purposes to imagine a mythical situation which could occur in World War III, and by the application of previous mistakes, attempt to show our weaknesses.

Let us, therefore, assume an X Infantry Division, commanded by Major General A. This division is in army group reserve

mander asks for help when the Allies withdraw in some confusion, particularly in the left United States corps.

General A and his X Division are released to this corps and are assigned the defense of the road center of Bastomont, a critical position on the left of the corps zone. General A's troops reach this position before the tide of battle does, organize it, and anxiously await the enemy—in the meantime they frantically search for information of friendly units on their flanks, and of the enemy to their front. Information from the corps command post is nonexistent. Eventually, advanced mechanized forces of the enemy locate X Division, feel out the position, and begin to work it over on the ground and from the air. As we join General A, his overall estimate of the situation is that within 24 hours he will have to decide whether to withdraw, or to stand and fight and risk encirclement.

What are the factors which will contribute toward this decision?

All-important, naturally, is the enemy situation. However, we are writing this problem to test General A and his division in the face of adversity, and we can imagine the enemy situation to be whatever we want. Therefore, let us ignore the enemy and concentrate on the stresses and strains of General A's own troubles. First, what mission has General A been assigned by the corps commander on his visit to

We must change our attitude concerning real estate, which casts a stigma on the commander who voluntarily gives up ground to gain tactical advantage. This same idea contributed greatly to Hitler's defeat

when the enemy attacks the NATO forces in Europe and begins World War III. Things do not go according to plan, as so frequently happens. The Allied forces are driven from their defensive positions by an enemy penetration of the left corps of the United States Army. The corps com-

that embattled gentleman while en route to his present position? Actually, General A is not quite sure. The corps staff frankly did not know the actual situation; there was no time to obtain written orders; General A was not told to hold Bastomont "at all costs"; nor was he told

to delay and withdraw. General A was told to use his own judgment. He was lucky.

The use of the cliché "hold at all costs" has become all too habitual with excited commanders. Melodrama comes easily in the midst of crisis. A battalion commander of the Eighth Army in Korea has said that on more than one occasion during the dark days of the Eighth Army's retreat from North Korea, he was told to hold his position "to the last man," and he was faced with the difficult job of convincing his troops of the necessity of such an order. Having accomplished this interesting psychological task, he subsequently received the order to withdraw. He felt that this procedure was—to put it mildly—detrimental to the confidence of his soldiers in their command.

While thanking his stars for not being hamstrung by orders based on misinformation—or on none at all—General A should certainly have asked for an estimate of the value of Bastmont as real estate; for an indication of the timing involved in holding or withdrawing; and lastly, for future positions to the rear, since it would appear that a general withdrawal was in progress.

The second major problem facing General A was a realistic appraisal of the fighting quality and morale of his troops.

The X Division had a proud record. All incoming soldiers were read the division's history, which included the proud boast

Colonel Alexander D. Surles, Jr. was graduated from the United States Military Academy in 1937. During World War II, he served in Europe with the XVIII Airborne Corps. He was assigned as Commanding Officer of the 45th Mechanized Cavalry Reconnaissance Squadron in Panama for 2 years, and was Commanding Officer of the 5th Regimental Combat Team in Korea in 1951-52. He was graduated from the Army War College in 1954, and is presently Assistant Secretary of the General Staff, Department of the Army.

that the division had never given up a foot of the ground it had won. This fact became a part of every inspirational talk made to the troops—whether on the subject of venereal disease, or in preparation for the outbreak of the war. It occurred to General A that if the first combat action of his division ended in a withdrawal, serious damage might be done to this hard-won division pride; and more important, the troops might lose confidence in him as a commander, with the resulting destruction of his usefulness and, eventually, of his career.

During the short time that General A had commanded his division, he had found it neither necessary nor desirable to explain to his troops that they might be kicked around considerably during the initial phases of combat. Many of his soldiers belonged to that school of optimistic Americans who, first, considered that the enemy had been vastly overrated, and second, thought that those who spoke of initial reserves were defeatists. General A knew, that the American people, as a nation, had been milk-fed on the idea that the atom bomb would, without great difficulty, bring the enemy to his knees, and he feared that American generals who talked, and practiced, withdrawal might well be severely criticized. So, knowing better, he had continued to hope for a miracle.

General A was confident, however, that his troops would fight bravely, even heroically. However, as the pitch of battle mounted around him, General A began to wish most heartily that the training of his division had been conducted under more realistic conditions. Infiltration courses and combat firing problems conducted under overcautious safety regulations had not prepared the X Division for the sights and sounds of battle. In theory, a good army is so well-trained and highly disciplined that orders and instructions pass down the chain of command, and are understood and obeyed promptly in spirit

and in letter. In practice, there are misunderstandings, mistakes, hesitations, and dilatoriness.

Air attack and artillery fire cause noise, confusion, casualties, and burning vehicles. Communications go out. Telephone lines are cut or broken, radios crackle static under fear-stiffened fingers. Information of the enemy is difficult, if not impossible, to obtain. The common atmosphere of warfare is a form of heavy fog in which only a small amount of information of the enemy becomes known. The inexperienced commander becomes dismayed and shaken because the reality of battle is unlike what he had imagined. Chaos, litter, and inaction are bewildering to the untrained officer who cannot distinguish order and progress from confusion. Most trying of all are the rumors that sweep through an embattled force borne by civilians or stragglers; imagined during the murky night by excited outposts—frequent have been the cries of "Gas." In Korea, a confused division G2 received a report of Chinese charging toward our lines on camels. Legends of unstoppable masses of 10-foot Russians will grow like wildfire. In this battle of General A's, he will undoubtedly be plagued by reports of atomic explosions during every artillery bombardment. Perhaps he may see some, too, but that is another problem.

Apart from realism, just how good was the training that X Division had received prior to its first combat? It seems to General A, at this point, that the training had been too regimented and controlled; that the initiative and responsibility of his junior officers had been neglected. To be sure, these junior officers were good classroom instructors; they used training aids and held their pointers in the proper hand; they moved their units to the places carefully designated in the training schedules; they made the men wear their helmets on the well-controlled field exercises and

maneuvers; they even made a grudging pass at preaching camouflage, dispersion, and digging; but the troops had spent much of their training time in trucks; they had to in order to accomplish the required number of hours of training. General A cannot remember encouraging his small unit commanders to take their units on field exercises on their own; these commanders had never had to worry about arranging for their own food and water, nor had their problems lasted long enough to require resupply of gasoline or ammunition.

The training of X Division in the defense—when it was scheduled—had stressed a linear defense, with friendly units on both flanks and service units in the rear; open flanks and the enemy in the rear were not permitted; penetrations between units were quickly repulsed, or else the umpires made the friendly troops move back.

Since coming to Europe, General A reflects, life has been pretty plush. He recalls his trucks on the move to Bastmont, bulging with creature comforts, guitars, beds, tables, and chairs. Most of the men had carried cameras over their shoulders. As a matter of fact, the G4 has admitted proudly—he had been in Korea—that he brought along a 5-day extra supply of ammunition and many extra weapons.

General A begins to worry about the possibility of a withdrawal down the one good road to his rear. He remembers a defile about 4 miles back which he has not secured. He recalls vividly the battle reports of units in Korea with their personnel loaded on trucks, tanks, and guns, making a run for it, only to find a similar defile held by the enemy.

As a matter of fact, General A is beginning to get quite worried about the decision he is going to have to make. He realizes that much of the fault for failing to prepare his men for operating under

difficulties belongs to him, and to men like him—professional soldiers, brilliant planners, graduates of the Command and General Staff College and the Army War College. Working in the confusion of battle where chance intervenes and friction dogs efforts, a commander needs equanimity and an iron will to protect him from disappointments and to override obstacles. He needs elasticity which will permit him to revise his dispositions and his plans.

To his horror General A, an honest fellow, finds that he is selfishly considering his personal future—the consequences of a premature withdrawal, or an encirclement with the resulting loss of much of his division. He even thinks of what the newspapers will write about him, of what his wife and son will think.

In short, General A is human and busy with his reflections, his worries, and his might-have-beens; he is fast becoming sorry for himself. He realizes he is lonely and needs a cheery word of encouragement. General A has reached that moment that comes to every man in battle in which he realizes the magnitude of the forces against him, when it seems that a cold hand has gripped his heart; when finally, seeing clearly what he has to face, he measures his own character.

The Decision

At this point, General A's G3 comes in with two plans; one to make a night withdrawal, beginning in 4 hours, one to stay and fight. The time has come for General A to make his "decision in the face of defeat." Is he up to it?

Actually, the answer to this question is no—General A is not up to it. This is an inexcusable fact—but a fact nevertheless—and the reasons why are based on a refusal by our military leaders and our people to face up to reality. Granted that our war plans recognize the necessity of withdrawal; granted that our field manuals treat it matter-of-factly; granted that our

schools teach the fundamentals; the failure is that nowhere in our plans, our manuals, or our school solutions is withdrawal shown to be the tremendous problem that it becomes under actual battle conditions. Nowhere in all of our military literature is there preparation for the confusion and chaos inherent in a retreat. Properly prepared for adversity, intelligent, resourceful, determined troops can last through it and come on to victory. This preparation must be embodied in our training and it is the job of the officers of the Army. We must change our ideas.

Change in Approach

There are those who would criticize the fictional account of General A's problem described above as an approach to World War III based on the weapons, organization, and doctrine of World War II. They would be right. The incontrovertible answer to this criticism, however, is that if this situation occurred tomorrow, or next month, those are the only weapons, organization, and doctrine that General A has at his disposal. This is worse than discouraging and frustrating; it might be fatal. While the razor-like minds of scientists and newspaper reporters create new weapons and "new looks," our best professional military brains operate at the same old stand.

An impartial appraisal of the beginning of World War III, focused particularly on an attack by the enemy on the NATO forces in Europe, reveals that our forces will begin the war on unfavorable terms. It seems apparent—without gazing too deeply into the crystal ball—that this war will have to pass through a cycle of three phases; the first of which will find the Allies inferior in means to the enemy; the next, if we acquitted ourselves well, will find the adversaries on fairly equal terms—with occasions occurring frequently where locally the enemy has superiority of means—the last, which can be reached

only by supreme effort and sacrifice, will find the Allies in the supremacy. This last phase is one which we do well; the first two will present circumstances to our Armed Forces which we neither admit, understand, nor know how to overcome.

We must approach this far-reaching problem with new concepts—strategically, psychologically, and tactically. We must make the change in our approach immediately. Specifically, what can we do?

Strategic Defense

Initially we must accept the fact that the Allies must assume the strategic defensive. The basic idea of the strategic defensive is to conserve your own forces while letting those of your adversary consume themselves—thus to prepare later favorable fighting conditions. In its execution a strategic defensive will usually make use of a tactical defensive and take full advantage of modern defensive measures.

At the same time, we must change our attitude toward the value of real estate. Our present philosophy casts a stigma on a commander who voluntarily gives up ground to gain tactical advantage. This same idea was Hitler's greatest single contribution to his own defeat.

The next war will not be fought on a line surging back and forth, but in a wide belt of combat with friendly forces, enemy units, and guerrillas intermingled—with both sides afraid to concentrate forces because of the fear of an atomic attack.

In the face of this problem, we must develop a flexible defensive zone. This zone must be able to absorb fairly deep penetrations without vital effect, and without moving the general location of the zone. Although the zone as an entirety may not be forced back, units at the point of enemy attack must know how to retire efficiently.

Retrograde Movement

Our doctrine so far indicates the possibility, even the necessity, of both the strategic and the tactical withdrawal. Our Army does neither of them well. Retreat compounds confusion—lost vehicles, captured maps, a progressively more obscure situation to the retreater, and disrupted communication nets. We must study the art of the retrograde movement. In such a situation as we may be called upon to face, the traditional, the dashing, the attractive, the splendid American offensive spirit must bide its time.

It is not defeatist to preach of practicing the retrograde, it is commonsense. The retrograde movement is at best a costly maneuver in terms of personnel and matériel, but it can be disastrous if executed clumsily. It is complicated and demands the highest discipline. Under heavy pressure, it is inevitable that units will be cut off. We must emphasize the battle conduct of such isolated units from squad to division.

To summarize then: If we are to outlast the first two phases of the next war, we must accept as a principle the necessity of the strategic defense. We must develop an elastic tactical defense; we must study the retrograde movement. We must require a higher discipline; we must teach the breakout from encirclement. We must train small isolated units to operate alone, without panic; and finally, we must develop in our leaders what Clausewitz calls "that great strength of mind and soul."

It is not possible here to develop in detail the tactical doctrine for the elastic defense, the skillful withdrawal, and the breakout from encirclement. Our service schools are equipped to do this job. It is impossible to resist the temptation, however, to suggest that careful study be given to the Korean experiences of units who sought the easy way out by dashing helter-skelter for a truck column at the last minute—attempting to outdistance a

slower enemy who usually had already infiltrated to their rear, and who methodically proceeded to shoot up the confused, leaderless mob which crowded, without a thought of tactical integrity, into any type of transport they could reach. The Germans and the Soviets can also provide us with excellent teaching in the breakout from encirclement.

Next, we need better leadership, decentralized and realistic training, and sounder discipline. These are closely interwoven subjects, and it is not always possible to separate them in convenient compartments. Actually, it is not desirable to do so.

Officer Discipline

In spite of The Doolittle Report, the disciplinary problems of World War II were not solved by relaxation of the discipline of enlisted men. Rather, the discipline of a considerable percentage of the officers needed tightening. When slackness is tolerated in officership, it is an invitation to disobedience and all discipline disappears.

Rommel always attributed the magnificent esprit de corps of his *Afrika Korps* to discipline, loyalty between officers and men, and the continual personal example and utmost self denial of his officers. Even during his 1,200-mile retreat there was never any collapse of morale among the German troops—never any surrender because of fatigue or apathy.

At present, the complicated administrative procedures involved in getting rid of unsatisfactory officers hampers commanders greatly. It becomes common practice to find jobs in the rear areas for those not competent to command. In comparative safety these misfits do better and sometimes get promoted or decorated for their work. This is extremely harmful to morale and discipline.

We must develop resolution, initiative, and willingness to accept responsibility

in our leaders. This is difficult under present-day systems of training. The demand for economy of time and money continually forces an emphasis on centralization of command. It is imperative, however, that we encourage the mobility of the mind: quick decisions, audacity, freedom from the hackneyed solution; the capacity to do the unexpected with skill and boldness; to anticipate and capitalize on the mistakes of the enemy.

To accomplish these goals we must practice decentralization of command and control on a daily basis. We must encourage—and insist on—exercises for small units, completely without supervision, which will stress the independence of the commander within his mission. Let the commander make a few mistakes. We are too quick to correct our junior leaders. We prevent their mistakes from happening. Mistakes are most educational. In training, the soldier grows accustomed to the presence of great numbers of men around him on maneuvers, at parade, and in the consolidated mess hall. Officers and men both must be prepared for the loneliness of the battlefield.

Individual and Unit Pride

Pride in the unit must be constantly emphasized. We must learn to appeal to the emotions of the men. We must desire glory for unit and for self. Pride in the unit must be based on pride in the individual as a soldier. This individual pride comes with the knowledge that each man is an expert soldier. We sacrifice good training time teaching the fundamentals of high school civics to men who are hungry to achieve this expertness.

There is a distinct relationship between pride in individual accomplishment and unit esprit. The unit which can successfully go through a rugged training program—formerly considered practicable only for selected individuals—gains a tremendous confidence and pride. This is the theory of the Marine boot camp and the

parachute school. It can, and should, be applied to all our fighting units.

Thus, we can, and must, improve our doctrine, the mental attitude of our soldiers, the leadership of our commanders, and the discipline of our units. General A's decision in the face of defeat can be made easier for him, but only by an immediate change in our military philosophy.

Other Difficulties

There remain, however, two other important difficulties which beset General A at Bastmont. These are—not necessarily in order—the organization of his division and the paucity of his information. Even in his medieval, World War II way of doing things, General A realized that his division was too heavily encumbered—too many trucks, too many extra weapons, too many luxury items. These drags on his mobility would have been infinitely more crippling if he had taken up a zone defense similar to the one suggested above.

The lack of information available to General A first became apparent to him at corps headquarters. It was ever thus. Reports are frequently vague, conflicting, incomplete, and all too often colored by the personalities of the individuals who pass them. Information of the situation tends to stop and gather moss at division headquarters. It is human nature that embattled forces in contact with the enemy become preoccupied with operational problems, and the passing of information to the rear assumes a second priority. This is particularly true when the news is bad. This is human nature; but slackness in reporting creates a news vacuum at corps, army, and army group headquarters. It is well to emphasize here that this dislike of reporting bad news is an even more serious problem when forces of different nations are involved. There were many examples in Korea in which Republic of Korea (ROK) commanders failed to re-

port their difficulties until too late—because of the fear of "losing face."

In World War II, Field Marshal Montgomery overcame this problem by using personal liaison officers accompanied by special radio teams—the so-called "Phantoms."

Many American commanders disliked the use of extraorganizational communication media, because they feared a bypass of the chain of command. It cannot be disputed that this possibility is inherent in such a system, but it is felt that it can be overcome by appropriate operating instructions. It seems evident that we must be prepared to operate in more dispersed formations than those to which we have been accustomed. The adoption of a system of alternate communications—to be used to pass back information only—will not only keep higher commanders more immediately aware of the situation, but it will keep regular communication channels from becoming clogged with frequent and lengthy reports. Good ideas must not be discarded because of the administrative difficulty of making them work. Additional communication is a necessity.

One last gap yawns widely in our doctrine regarding the study of the art of the retrograde. This gap concerns the conversion of a defeated unit into one ready for further operations; for, make no mistake about it, in the war in which we may soon become involved, some of our units are going to get chewed up badly—it is idiotic to close our eyes to this responsibility.

The rehabilitation of a beaten force is a problem which may at one time or another confront the commander of any size unit from company to army. Further, the necessity for the rehabilitation of a unit may arise during any type of operation—offense, defense, or withdrawal. It may be required for only a part of a unit, although the complete unit may have been successful. However, it may be readily

presumed that the rehabilitation of more units must be accomplished more often and more expeditiously when the force, as an entirety, is operating under unfavorable conditions. The lack of detailed writing on this subject, and the consequent lack of approved doctrine can be expected to cause serious troubles to inexperienced commanders in any future war.

The specific methods used in rehabilitation of a beaten unit will vary with the situation, the weather, the facilities available, the length of time allowed before the unit must return to action, and the degree of the beating that the unit has taken. However, treated on a general basis, it seems that the measures that must be taken fall into three broad categories: the restoration of physical well-being, the restoration of administration and control, and the restoration of morale. The accomplishment of all of these objectives must be undertaken as soon as practicable after the defeat, retreat, breakout, relief, or whatever misfortune has befallen the unit. Further, the accomplishment of any one of these objectives has a direct bearing upon the other two. A soldier who has had a hot bath, a good sleep, a shave, a haircut, and who has been paid and decorated for his heroism, is much more amenable to the idea of returning to battle as an effective fighting man.

It is, however, true that while the physical comforts and the administrative rewards are contributory to rehabilitation of the soldier and the unit, the re-establishment of the pride of the individual soldier, his self-respect, his acceptance of discipline, and his pride in his unit, are essential.

This is really the essence of the problem of rehabilitation of units: the necessity to change the mental attitude of the officers and men who make up a defeated unit from despair to hope, from pessimism to optimism; to re-establish the confidence of the men in their commanders; and to

reinforce in each man his pride in himself and in his unit.

In studying this problem it is useful to look into military history, pick out two successful commanders who have taken over large units in various stages of disrepair, determine what measures these commanders took to accomplish their tasks, and attempt to collate these different measures by general categories, so that fundamental lessons may be drawn.

Historical Examples

General Franchet d'Esperey and General Matthew B. Ridgway were of different nationalities and they fought in different wars. The similarities and differences in their methods are interesting.

General d'Esperey arrived to take command of the French Fifth Army on 4 September 1914, 2 days before the First Battle of the Marne. His army was battered, discouraged, but not quite demoralized. He transformed his weary troops—depressed by a long and unexpected retreat—into a tremendous fighting force which became the equal, then the superior, of its former pursuer.

He adopted a fierce and uncompromising manner of set policy. He deliberately banished everything that was kindly in his nature. He immediately attempted to establish a friendly spirit of co-operation with his British allies—there had been none before.

He spoke to his staff the first morning and gave them a shock that no one ever forgot. He told them that any dereliction or weakness among the troops would be punished by the extreme penalty. Further, he said that slackness, mistakes, and lack of zeal or intelligence were crimes in staff officers, particularly his own—anyone who failed in his duty would be shot. Apparently they knew he meant every word.

He allowed legends to grow up about him. It is said that his method of deal-

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ing with traffic jams was to fire his revolver out of the window of his long, black sedan.

He supervised the preparation of a plan for the offensive which he presented and personally sold to the Commander in Chief, Marshal Joffre. It became the keystone of the plan for the First Battle of the Marne. In all his actions he stressed energy, enthusiasm, attention to duty, and discipline. Dramatic—yes. But his success justified his means.

In time and space it is a long jump to December 1950 in Korea, but the circumstances were not too different. At that time, the United States Eighth Army was near total defeat. Although its fighting resources had not been seriously hurt, the spirit of the Army dragged bottom. Leaders at high levels said few words of reassurance to the troops. Talk of evacuating the peninsula became common among officers and men. Naturally the ROK people were aware of the general atmosphere and became depressed and apprehensive.

On 27 December, General Matthew B. Ridgway arrived in Seoul. His first words, "I am delighted to be here, and I intend to stay" seemed to breathe new life into the officers who greeted him. He immediately held a meeting with Syngman Rhee, reassured him as to Eighth Army's intentions, and then embarked on a whirlwind tour of the entire front. He visited each corps, division, regimental, and, in many cases, each battalion command post. He had issued advance instructions that at each command post he wanted to speak to as many people as possible. Upon arrival he would leap from his jeep before the wheels stopped turning, and deliver a short talk, surcharged with confidence, vitality, and sincerity which, in substance, was:

We are not interested in any one piece of real estate here in Korea. We are interested in killing Chinese, and the en-

emy has been good enough to provide us with that opportunity. Never before in history have the opportunities which now face us been made available to any other army. In some cases we will be able to kill more Chinese by attacking. In others it will be better to conduct limited withdrawals, thereby giving the enemy an opportunity to walk into our preplanned traps. In any event our mission from now on is to kill the maximum number of Chinese.

A staff officer who went with him on this trip says:

You could practically see the sparkle come back into eyes, the straightening of shoulders, and the general upsurge of morale. It was the most amazing thing I have ever been privileged to watch.

Immediately following this tour, General Ridgway turned over the routine administration of the Army to his chief of staff, and with a small group of staff officers moved into a forward command post—in tents—where he could be readily available to his troops. He issued orders to improve the rations—both in quality and in the number of hot meals fed to the troops each day. He realigned the entire Army and placed ROK Divisions between United States Divisions—to decrease the effect of any ROK collapse and to provide the ROK Divisions with additional artillery and tank support. He directed his planners to quit planning withdrawals and to draw up plans for a resumption of the offensive.

He personally drafted a message addressed to every man in Eighth Army explaining why the United Nations was fighting in Korea. He had the message mimeographed and directed that it be brought to the attention of every soldier. He saw to it—by constant traveling, in fair weather and foul—that the troops became personally acquainted with him.

The success of these actions was imme-

diate and tremendous. It needs no further elaboration here.

Each of these commanders, in his own way, arrived at his new command, brimming with confidence, possessed of the ability to communicate that confidence to the troops, and was able to turn defeat into victory. Methods differ with personalities and with nationalities. Neither the flamboyant d'Esperey nor the grim Ridgway was embarrassed to inject drama, even melodrama, into situations that seemed to reek of the lackadaisical acceptance of defeat. Where d'Esperey threatened to shoot the first staff officer who failed, Ridgway tried to let himself be seen at the front—with his two grenades—by as many of his soldiers as possible. Both moved immediately to reassure their Allies, and such reassurance was necessary in both cases. The French people had been overconfident and suffered from a tremendous letdown. The American people too had suffered a letdown. This letdown manifested itself in confusion as to why we were fighting in such a dismal, far-off land against such a primitive, pagan people. General Ridgway, therefore, appealed both to his troops and to the people in the United States. He not only had to re-establish the confidence of his Army, he had to re-establish the confidence of the American people in his Army. It was a masterful public relations job.

Certain central ideas stand out. Defeatism is usually prevalent in a unit that has taken a tremendous beating. It must be rooted out ruthlessly, expeditiously, and dramatically. Leaders who are tired and are ready to accept defeat must be replaced. The command as an entirety must be jolted out of complaisance by incisive, eye-catching action. The new commander must do something immedi-

ately upon his arrival to establish himself as a personality. Confidence in command is the great essential. Once that has been re-established, rehabilitation can proceed.

Summary

In summary, it seems to me that we have failed to appreciate the problems with which the next war will confront our forces. This failure, compounded by the habitual, slapdash carelessness with which our soldiers approach battle can result in defeats which could seriously affect the future of the country.

A new doctrine is required. Inherent in this new doctrine must be more dispersion, more flexibility, additional and alternate channels of communication, greater decentralization of responsibility and initiative, a more streamlined organization, and less concern with the loss of real estate, as such.

A sounder discipline is essential. This discipline must be based on the increased effectiveness of our junior leaders; on individual pride founded on experience in the soldiers' trade; on unit esprit which finds its roots in our glorious traditions as a fighting, victorious nation; and finally, on confidence in command which can only come as a result of all of the foregoing.

An improved system of training must be evolved—a system which recognizes and includes the chaos and confusion of combat, the loneliness of the battlefield, and the increasing requirement for junior leaders to act without comforting directives from above.

The fact that some of our units are going to be soundly trounced must be accepted, and plans and methods for their rehabilitation should be developed and taught in advance.

These are the problems which face us. Let us get about solving them today.

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Mass Man and the Military Officer

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The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

AVE, Ave, Caesar, shouted the man of Rome. In time, the Christian answered, Hosanna for Christ. During the subsequent millenium, resounding tributes were dedicated to beauty, to reason, or to humanity. Shouted the robber-baron of just a few decades ago, hurrah for money. The man of the mid-twentieth century shouts as loud as any of them. Hurray, he shouts, for me.

Good for him, perhaps, but few join in with his cheer because others are busy cheering for themselves. Representing the mood of time, the cheer has its amusing side, like an attractive phase of childhood. However, amusement at a child's fumbling with matches fades when we smell smoke coming from the attic.

In concert with all other institutions—and in their own degree—the Armed Forces of the United States have been affected by the cheer and the mood it represents. So have the armed forces of other nations as well as the other nations themselves, for the mood and the spirit of which I speak is by no means confined to the area between Canada and Mexico. However, this essay is addressed to citi-

zens of the United States, and concerns principally the United States Armed Forces and her people, and the effects on them of a representative spirit of the times—the spirit of mass man.

A nation, which is determined to do with as little of an armed force as it can, must depend heavily on quality—fundamentally on the quality of people. There are signs—which we intend to consider—that the spirit of mass man may be depreciating the quality of our future soldiers, sailors, and airmen. Not that the depreciation is yet pervasive, but moods and spirits have long-range effects.

Most influential and unfortunate, so far, have been highly publicized—although not necessarily highly representative—attitudes toward the military, exemplified by the animus against the military officer, to which, with our genius for telescoped nomenclature—often, as in this instance, irrelevantly—we gave the term "caste system." For good or ill, there are those in our society who have a total and unreasoning alienation to everything military. Sometimes, they advance as a basis their fear and hatred of militarism. This, however, is hardly an exclusive basis, since the American professional military man also hates and condemns militarism.

In his book, *Revolt of the Masses*, the Spanish philosopher, Ortega y Gasset, has set forth a useful dissection of the modern self-cheering man, whom he calls the mass

Who will replace our military men—men who devote their lives and considerable talent to a task which requires a special ability and endurance—if they should find the satisfaction ebbing through mistaken emphases

man. We need go no further than his concept for the general lines of identification of this pervasive force. Mass man is not necessarily uneducated—although uneducated he is likely to be. Nevertheless, he may be found at all levels of society. In fact, Ortega includes among mass man one of its most influential members: the overspecialized specialist—such as Klaus Fuchs, perhaps—who knows very much about one thing but practically nothing about anything else. As a representative of mass man, his general characteristics are some or all of the following: He rejects the conditions by which excellence is achieved; he rejects the notion that a price must be paid; he insists on his right to rule; and he insists on his right to disseminate his ideas—whatever they are.

Ortega ascribes this condition partly to the unique world into which modern man is born—a highly ingenious civilization in which so many shining elements are already developed and taken for granted that life appears easy and plentiful. Political concepts, social forms, and material conveniences, developed over centuries by the study, perspiration, concentration, dedication, discipline, and self-denial of individual men—never by mass man—despite ignorance, terror, the distractions of pleasure, despite interference and frustration—for example, anesthetics, libraries, dams, personal liberty, home freezers, universities, pasteurized milk,

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telephones, courts, home television, cathedrals, strawberries in January, postal systems, public golf courses, crop rotation, insurance policies—all these are accepted by mass man as natural, as his due. He has contributed nothing to their development or their improvement, and feels no gratitude for them, no responsibility in connection with them other than to use them as a right.

Certainly, the modern cult of individuality has its refreshing aspects. A healthier foundation for the dignity of every man has been established. More men stand upright, so to speak, and look other men in the eye—"a consummation devoutly to be wished."

It is not readily apparent, however, that a highly developed society requires, in general, conformity, not individuality, of those members who hope to do well in it. One man may not readily discern that most members of a society must perform some share of responsibility toward their common society in order for it to work smoothly—indeed, for it to exist at all. One man may even believe that he can flout that society's demands successfully—as one man can—without understanding that not many men may flout them simultaneously, lest the society cease to present even the bare facade of ease and plenty. Highly complex societies can tolerate a small proportion of aggressive nonconformists—but not really very many, and, beyond certain limits, not any.

The foregoing is not intended to include among mass man those "nonconformists" who quarrel with their society's conventions with a view to improving them. Such constructive critics—when they are wise men—are actually contributing handsomely to the development of their society. Nor does the foregoing intend to say that it is not healthily stimulating to any society to be challenged into re-examining, revising, and improving its own character and the character of the responsibilities

which it demands—however subtly—of its members.

What remains is for individual man to rise from being mass man to the individual dignity now automatically established for him. Lord Acton—a dedicated student of human liberty—reached a conclusion that has, in recent times, been reiterated by Bishop Sheen, "Liberty means freedom to do, not what one wants to do, but what one ought to do."

I repeat that mass man demands all the advantages of society, which he considers as his by right, but shoulders none of the responsibilities, which, in fact, he does not recognize as having any connection with him. In this sense, he flouts his own history and society. One finds ready examples—even on a large scale—such as the fate of the report by an eminent committee, a few years ago, which considered the proposition of the often-asserted freedom of the press. The committee concluded that there is some validity to what the committee preferred to express as the right of the people to be informed, coupled with a sense of responsibility on the part of the press. It is interesting to note what reception that report received in the press. The few great papers praised it; some others attacked it; and most of the press ignored it, in the interests, perhaps, of freedom without responsibility.

We continue to hear a great deal about rights, which are usually asserted to be numerous, absolute, and immutable: the right to speak or not to speak, the right of the press, the right to liberty, the right to happiness, the right to appeal a series of adverse decisions to the Supreme Court, the right to vote or not to vote, the right not to inform one's self, the right to be warned, the right to criticize, the right to be rude, the right to lie, the right to—but who could possibly enumerate all the human desires and inclinations which are today advanced as rights? It is a curious characteristic of these so-called rights that

many are apparently one-way rights—rights demanded by an individual who refuses to recognize any obligation to make return. He may or he may not make return, and it has been said that it is his right to decide.

Such popular assertion appears to be loose usage, or local phenomena. One's rights in the United States are one thing. In the Soviet Union, they are something else. In Tibet, or among the Eskimos, they are something quite different. For the only rights of a man which have any reality, the only rights which he can actually enjoy, are those which his own society will give him. In nature, he has no palpable rights. The rocks will not feed him. The beasts will not give way politely to let him pass. Only within some social context can he secure rights—for a price. Although he considers that society owes him a great debt for the mere fact of his existence, society will not pay him.

Casanova wrote that he had once received excellent advice to "beware of the man of one book." At the risk of being accused of such singularity, I would refer once more to Ortega and dwell for a moment on the characteristic he mentions, by which mass man demands the right to disseminate his views, whatever they are— informed or not. We are inundated today by floods of views on all conceivable facets of life, most of them undigested views disseminated by those who have no conceivable basis for giving advice in the fields which they discuss.

In relation to this point, a University of Alabama philosopher, Marten ten Hoorn, has recently expressed his opinion that we are becoming a nation of busybodies. How can the busybody, he asks, be sure that he is the right person to prescribe for his neighbors? The first requirement, says Ten Hoorn, is "to learn how to think—not out loud or in print, but privately. The thinker himself, not his neighbor, is to be the beneficiary."

We have seen innumerable evidences—perhaps the most obvious one being prohibition—of the determination of some militant minority to impress its views because they are *its* views. Along with other characteristics of mass man, this characteristic has had its effects—some beneficial, to be sure, and some harmful—on contemporary life, and particularly on the Armed Forces.

Among the obligations to his society which mass man repudiates, is any obligation to defend it—whether or not his society is endangered. Indeed, it is almost to a pathological extent which some representatives of mass man will go to avoid military service. It is a curious contrast to the attitude of the independent Swiss to military service. The normal Swiss has no dread of it; instead, upon completing his compulsory military service, he has a feeling of reaching maturity, of joining the adult community.

We Americans sometimes tell ourselves—and as often believe—that in times of danger the citizens—meaning civilians—will spring to arms. Unfortunately, there are two principal errors embedded in this concept. First, if sufficient numbers were to wait for an emergency before bearing arms, it would make little difference in these days of highly complex war machines because the time it takes to develop and train effective military forces makes springing to arms a *beau geste* of uselessness. Second, they never do spring. They never have—not in our or any other country. Some do, of course, but never nearly enough. In fact, many have sprung away from arms—even during battle. Regiments actually marched from the battlefield at Bull Run; their enlistments had expired. During the successful advance from Vera Cruz to Mexico City, the same reason accounted for the departure for home of 4,000 of Winfield Scott's 10,000 men.

In a recent issue of the MILITARY RE-

VIEW, an Army psychologist recounted the reactions to a statement put to a sampling of 2,500 men in the South Pacific early in 1944. At that time, the American forces in the Pacific still had formidable tasks before them, and Western Europe was still completely in the hands of Hitler. This was the statement: "The main job right now is winning the war, and no man in good health has a right to go home until the job is done." These were the reactions: 20 percent agreed with the statement, 15 percent were undecided, and 65 percent disagreed.

I have stated earlier that mass man repudiates any obligation for military service. Even further, if and when he is forced to serve, he wants to set the terms of his service—as he can sometimes do outside military or other public service. He is not interested in the terms along which any effective military service must be conducted. If the terms do not conform to his, he considers them wrong. Not entirely of his own doing, he has been led to believe that the "deprivations" to which he will be subjected entitle him to enormous credit afterward and to considerable return for something we will examine more closely later—his "sacrifice." It is curious that he may have some sense of community service—within very narrow limits and on a local scale—but he lacks a sense of disinterested public service.

Obviously the terms which mass man would set and the terms which a military force must set will never coincide. In that contradiction lies the wellspring of the "caste system" attacks peculiar to World War II. For it is trite to observe that there can never be such a thing as a "democratic army." The two words represent diametrically opposed concepts. Either you have an army, in which command must be exercised—if necessary, arbitrary command—or you have an organization which may be democratic in varying degrees but is something other

than an army. To be sure, we have properly come a long way from one of the *Maxims for Management of an Army* which Lord Hopton issued in 1643: "Pay well, command well, hang well." Yet, the function of command—not persuasion, not popularity, not co-operation, not management, but *command*—is the *sine qua non* of an army or any military service which hopes to win a battle. The grim Admiral King—when installed as Chief of Naval Operations shortly after the war began—is reputed to have observed, "When things get tough, they always send for the sons of bitches."

"The idea must be got rid of that officers breathe special air," said one post-war spokesman—who knew about as much on the subject of commanding an army as General Pershing knew about cartooning. The reverse is precisely the point here, for as diplomats and Congressmen must continue to be protected by certain immunities, so is there a sense in which officers of an effective military service must continue to "breathe special air."

I quote here a rather lengthy passage from possibly the best novel ever written about an American military service, Marcus Goodrich's *Delilah*, because Mr. Goodrich puts the point about as simply and clearly as it can be put:

The Captain can never be just a man from Illinois who sleeps in rumpled pajamas, makes mistakes about history, and uses his finger, when he thinks no one is looking, to push food onto his fork. Familiarity, when it is permitted to prevail, if it does not breed the proverbial contempt, certainly breeds between the giver and receiver of an order, an order that may lead to death or frightful mutilation, at least two things impairing the confidence, the aggressiveness, and the speed with which a battle crisis must be met.

First, in the giver of the order, it breeds a realization that if he takes this step, which in his judgment is exigently

indicated, it may convert, into a gory horror, that tall, ruddy-faced man who has the next chair at dinner, who likes radishes, which he eats with a loud rending noise, and who smiles with pleasure when his hometown of Baltimore is mentioned. The order may be given; but the doubts, emotional stresses, and temptations to rationalization, set up then, distract from the almost inhuman concentrations on the development of the battle that must prevail, if those already dead in the struggle are not to have died in vain and the battle is to be won.

Second, in the receiver of the order, familiarity breeds the constant reminder that the giver is merely a human being like himself, that the tactics on which he bases the summons to death may be as faulty as his familiar table manners, that he may be as mistaken here, in this fatal matter, as he was the other night at dinner in regard to the basic causes of the War Between the States. In the end, the order may be obeyed; but the slight taint of hesitation, dissatisfaction, and lack of confidence in the obedience may be quite sufficient to infect a hundred surrounding men, lead to a half-hearted spurt where fury, accuracy, and decisiveness are imperative. It was no crowd of cronies that responded with the lethal alacrity to the command, "Damn the torpedoes! Go ahead!"

It may be unfortunate or merely immaterial that some of the most successful military commanders in history have not been impressive exponents of a democratic form of leadership. On the other hand, some have been. In the American services, it is axiomatic in military leadership training, that, insofar as possible, the American soldier and sailor must be led with understanding, with due regard for his individuality and dignity. This training of the leader is not an easy process to endure; after all, he is a product of his own times in American life and must

be trained out of any predilection he may have toward the characteristics of mass man. Human instincts must be reversed, in that he must learn that the welfare of his men comes before his own. It is, as it should be, a painful and selective process to become, and to remain, a leader. For example, no enlisted man in any service, volunteer or draftee, is ever subjected to the subordinating, developing process which must be undergone by a plebe at the Military Academy. Except for the negligibly few specialists commissioned in wartime direct from civil life, there is, in truth, no really easy way to secure a commission.

Any refining process takes time. The refining of men takes years. There used to be a saying in England (I wonder if they use it anymore?) that the education of a gentleman begins 100 years before he is born. When you use the product before the refining process is finished, you must expect less than the best possible results. During the urgent experience of a war, our tiny peacetime forces expand on a crash basis—in World War II, the United States Army expanded to 50 times the size of its Regular Army. Leaders trained before the war in the long, careful, weeding-out process were spread so thin in wartime that a soldier could, and often did, serve in a dozen outfits and never see a Regular officer. Hundreds of thousands of new officers had to be developed in a minimum of time, and the refining process had to be slighted by compressing it to a few months at best. Considering the circumstances and the need, it worked better than might be expected.

Still, there were imperfections among officers, as there were among all men who served. There developed a reaction against what were considered to be injustices against the system, and particularly against the military officer because he appeared to benefit most from the system.

It would be foolish to deny that some

of the reaction had a reasonable basis. Some officers, even a few among the Regulars, were not all they should have been when subjected to the stresses of battle and war. Some enlisted men and officers could and did cite chapter and verse of injustices to which the system, or other officers, or other enlisted men were able to subject them. But considering the entire reaction, I submit that the fundamental basis was the predictable reaction of articulate mass man—officers wore better uniforms, officers were saluted, officers could give orders, officers received more pay, officers had social advantages, officers had special privileges (although officers were often hard put to discover what were these alleged privileges that were worth such a fuss. "The prize of the general," observed Oliver Wendell Holmes, "is not a bigger tent—but command").

Mass man did not care for this situation. Mass man repudiated discipline. He wanted to be a captain, without understanding very clearly that the captain was subject to discipline, too. Anyway, he wanted to be a captain. And he found spokesmen who usually began their remarks, "Of course, an army must have discipline, but . . ." and then proceeded to propose changes which would have watered discipline to very weak tea.

It is, perhaps, remarkable, although consistent with my premise, that the criticisms of the military services were confined exclusively to the social aspect, specifically to the officer-enlisted man relationship; for it is in that field that mass man has most to say regarding his right to reject conditions of excellence, his right to rule, and his right to disseminate his ideas. If the services needed improvement, it is hardly likely that the social aspects were the only ones needing attention. The fact is that mass man was not interested in any other aspect. He said that he wanted to improve the Army, but he really did not give a damn

about the Army. All he was interested in improving was his own prestige, whether the improvement helped or harmed the Army. He said he was objecting to abuses of the system, but his real objection was to the system itself, its arbitrary relationships, and its discipline.

His attitude toward discipline (not necessarily military discipline) is one of the most revealing characteristics of mass man, and is worth pausing to examine. All discipline imposed from without the individual is wrong, says one type of mass man; only self-discipline is worthwhile. Now, while this argument can only be arrived at by a representative of mass man who is well on his way to rising above his mass identification, it is still mass man who speaks. If one waits for any considerable number of men to achieve self-discipline according to their own enlightenment, one may wait forever. Mass man is the antithesis of the man who disciplines himself. In the course of our lives, we all take credit for many things we have accomplished which, if we admitted the entire truth, were only accomplished because someone else made us—or helped make us—do them. The athlete who wins the race after being forced by his coach to train; the lad who leads his class after being required by his father to study; the legislator who devises a sound, wise, thorough measure after the courts have shot holes through his previous superficial bills; the infantry battalion which is highly decorated for an exploit of courage and endurance after being trained by a hardheaded commander—all these take credit which is, in a sense, not entirely due them. A child may or may not be taught good manners. If good manners are imposed on him and taught to him wisely, he may eventually see their value to society and himself and adopt them wholeheartedly, exacting good manners of himself even in situations where no one else will or can exact them

of him. Thus, he arrives at self-discipline and maturity. But if he is not taught good manners at all, will he exact them of himself? A few men may, but most men will not.

Good manners are required that a society may function; the more civilized the society, the greater the requirement. Even more urgently required is discipline in a military service. The longer the training period, and the better material one works with, the higher is the level of self-discipline which may be attained by its members. But great numbers of men will never learn by themselves to apply any kind of discipline; in order to have discipline throughout the organization—not 40 percent, not 75 percent, not 98 percent, but 100 percent—the simple fact is that discipline, particularly in formative stages of men and organizations, must be applied from without the individual.

I have also heard it argued that while a military force may need discipline in the heat of battle, it is not necessary to insist on it until it is needed, nor to impose it during peacetime or training or any lesser period ahead of time. Nothing could be more fallacious. In the heat of battle, under intolerable strain, a man must fight not only the enemy, but also his instincts which counsel him to abandon the field, to be relieved of the pressure; but there comes to his aid at least one force which helps sustain him: the habit into which he has been trained over and over again. Neither he nor anyone else can develop it in him 15 minutes before an enemy appears over the hill; its foundation is laid years before. When General Wainwright and his gallant men fought on, not for days but for months; when General McAuliffe and his determined men of the surrounded 101st Airborne Division said "Nuts" to demands for their surrender; when Commander Gilmore, rather than risk the presence of his

surprised submarine on the surface a moment longer to permit him to scramble below decks, ordered "Take her down"—they acted out of patterns of behavior in which they had been trained and in which they had trained others. These brave and intelligent men found assistance in that the firm roots of the pattern had been planted years before the grievous crises in which they found themselves.

Based, I believe, on the fundamental interests and values of mass man, the campaign of vilification of the military services and the military officer accelerated toward the end of World War II and reached a crescendo soon after. "Officers Live in Lavish and Kingly Luxury." "Officer Caste System Is Bane of Army Life." "More Prussianism." "An Army that requires an American freeman to remove his hat and come to attention when an officer approaches on a stairway." "An Ex-G. I. Talks Back to the Brass Hats." "Legislators Hear G. I. Denounce the 'Pentagon Boy Scouts'." It was a campaign. There is no doubt that subversive elements attempted to infiltrate the campaign for their own purposes, but I am not concerned with them here. Even without them, the attitude would have been expressed, although perhaps not to such an extreme degree. Not all the American war novels of World War II had the same ax to grind, but many of them did. If there was one stereotype pervasive in American novels of World War II, it was the warped, insistent presentation of a ruthless, callous, self-glorying commander: *The Strange Land, Mask of Glory, Face of a Hero, A Bell for Adano, The Adventures of Wesley Jackson, and The Naked and the Dead.*

One read the books and listened to the assured critics and thought of the driving pace in the Operations Division—the Army's wartime command post in the Pentagon—where the work week averaged 70 hours. One remembered the brave, con-

scientious commanders one had known, killed on every battlefield—respected commanders, bowed after years of Japanese captivity. One thought of Lieutenant General Whitey McNair, called by George C. Marshall "the brains of the Army," wounded in Africa, killed in Normandy; his only son Douglas—an up and coming colonel—killed on Guam. Or of the Patch family, one among several old distinguished service families who were just about wiped out. Or of Adna Chaffee who lived until August 1941, long enough to see his brain-child realized, promoted to major general on the deathbed he had reached from overwork as the "father of American armor." Or of General Joseph Stilwell, 61 years old, cheerfully marching his 100 survivors 400 miles through mountains and jungle to safety, dead 2 years later, like the others who simply wore themselves out—Vice Admiral McCain, Major General Theodore Roosevelt, Admiral Waesche of the Coast Guard, Marine Major General Rupertus—casualties all, strangers to lavish and kingly luxury. One may have heard an old sergeant reading about alleged pretensions of officers' wives and exploding almost incoherently, "Who the hell are they talking about? Why don't they talk about something they know? Who the hell do they think sewed the curtains for our messhalls in the Old Army and took care of our wives and kids when they were sick? The officers' wives, that's who"

One asked, who were the novelists, the critics, the special spokesmen? None, of course, were professional military men, commissioned or enlisted. Practically all were self-appointed spokesmen, speaking for what they presumed to call the enlisted man. Even the War Department-appointed Doolittle Board, requested to consider such a fundamentally important question to a military service as the officer-enlisted man relationship, was made up of six members, none of whom were on

active service when they were appointed. None were prewar enlisted men, for example, who would presumably be the best qualified persons to give the career enlisted man's view of the relationship. None was a West Pointer—not a fatal omission, to be sure, but a significant one. Most of the members of that Board were men who had served only for the period of the war, who had served, in fact, with considerable distinction—as had others, Regulars and Reserves alike; but they were appointed to consider a fundamental aspect of the Army which was to endure through peace and war. In other words, their recommendations were central to the *career Army*. Yet, none of them would be living under the conditions they influenced. In my opinion, the report of the Board was entirely superficial and misleading, and contributed to the situation facing the Armed Forces today.

There were even more virulent spokesmen than the Doolittle Board, but there were two reasons why their spokesmanship was open to question. First, they claimed to speak for the enlisted man, when the most charitable view would have conceded that they spoke for no more than the wartime enlisted man, the temporary server. Second, they did not speak truly even for him.

I have no statistics to support me against the sweeping assertion of the spokesmen that they spoke in condemnation in the name of all enlisted men. I am moved to quote Yeats' "Second Coming": although not all the best lacked "all conviction, the worst [were] full of passionate intensity." My only real reply is that I had opportunities to learn of such general attitudes and never came across them. During the war, I served in outfits and commanded outfits involving the command of several thousand men, all in all, and knew them better than one could know them, say, by sitting in an office of the *Stars and Stripes*, reading letters writ-

ten by malcontents. I knew most of my own men fairly well. Some did not like discipline (who does), but they did not brood about it. Some seriously sought responsibility and wanted to be officers; in the real expression of democracy in the United States Army, they studied hard, and if they were selected, they went to Officer Candidate School and earned commissions. Others did not like features of the officer-enlisted man relationship, but had no desire to undergo the training or undertake the responsibilities which officers bore. But most of them continually impressed me with their cheerful, determined acceptance of the system and its demands upon them as being reasonable and fair. They understood, or at least did not quarrel with, the reasons behind the system. I consider that the American enlisted man of World War II was done a disservice and misrepresented by most of the malcontents who presumed to speak for him. As I saw them, our officers and enlisted men maintained mutual respect and loyalty. There is no question in my mind or memory about it.

A careful reader may pause at this point to exclaim, "You cannot have it both ways. You have spoken of mass man and his characteristics. Now you are saying that most men, at least those in the wartime Army, did not possess those characteristics." The careful reader has a point. Being children of our own times, we all have, to some degree, the characteristics of mass man in us. But whether mass man's characteristics are possessed by the majority of men today, I do not know. The characteristics are there, and they are influential on the course of modern society.

As a result of the criticisms and recommendations, including those of the Doolittle Board, several "reforms" were instituted to benefit the enlisted man. However, whether or not such was intended, the reforms benefited not so much the en-

listed man, certainly not the Regular, as the temporary enlisted man; and consideration of this point leads me to a somewhat delicate subject, the matter of sacrifice, of which we heard much during the war, especially in connection with the man who was forced to serve.

What sacrifices did he make, he who was lifted from his more individualistic civilian society and required to carry out certain duties in a certain way as part of the Armed Forces? Of what was he deprived that he would otherwise have had? First and foremost, a quarter of a million men of all components and ranks sacrificed their lives, and another three-quarters of a million of all components and ranks suffered casualties of greater or lesser degree. The sacrifices which these men made are obvious and incontrovertible. Our honored dead deserve their honors. It does not detract from them to realize that many of those would have suffered or died had they remained at home, nor that the families of those who died received generous benefits. Those who were wounded received assiduous care and, most of them, cures that were the best that mankind could provide. It might be remembered—for what it may be worth—that the percentages of deaths and casualties were higher among officers than among enlisted men, and higher among Regulars than among non-Regulars.

However, less than one-tenth of those who served in any way were killed or wounded. Then, did the great majority, the more than 90 percent who finished alive and unscratched, sacrifice anything? Many thousands suffered many things: physical discomfort, pain, boredom, and fear. But, one may say, everyone suffers those; where, and for how many, is life easy? James Gould Cozzens, in a passage in one of the best of our war novels, *Guard of Honor*, asks:

The large-scale operation was what impressed you—some millions of men receiv-

ing at the same time through the same historical events their varying allotments of discomfort and disappointment and discouragement; some hundreds of thousands met occasions to dissolve in unthinkable fear or scream in unthinkable pain; some tens of thousands got an early death; but from which of these would a just and lasting peace secure you? Disappointment? Fear? Pain? Death?

Were there, perhaps, other real sacrifices? One's time? The unrestraint of civilian life, despite its being more restrained than civilians sometimes care to admit? The immediacy of family life? High civilian pay? The sharpening of skill in a trade or profession? Surely, for some who served, some or all of these were real sacrifices. But not for many others; the majority of those who served involuntarily were simply too young to have families of their own, prospects of high civilian pay, developed skills in trades, or firmly established professional positions. For one particular group—long-time effective members of the Reserves and National Guard—such deprivations were more likely to be real sacrifices. However, in partial compensation, experienced officers and noncommissioned officers of the Reserves and National Guard tended to share with the Regular the comparatively greater opportunity—modest as it was—for promotion and increased responsibility.

Many young men, rather than lose skills, gained them in the services where many were taught trades or other knowledge which they found most useful afterward.

For his sacrifices, did the man who served involuntarily receive any compensation? Sacrifice, in this context, is, of course, a relative term. Undeniably, the farmer, the worker, and the businessman were not unprosperous during the war. Perhaps no solution will ever be completely satisfactory until we find some way to share the burden during a war among

all citizens, including those who do not bear arms. Still, the man who served in World War II was compensated to some extent. More, much of his compensation overbalanced his sacrifice in the sense that it was extra compensation with things he hardly sacrificed, things he would not have been given free had he not served.

First and foremost, and mostly overlooked when this question is considered, is the fact that he was compensated with the continuation of his freedom, with victory, with the safety and intactness of his family and his home, his church and his friends, his club and his car. He was provided with a clear opportunity to discharge some of his obligation (not all of it; that obligation is never liquidated) to his society. He was paid with peace.

Next in importance, I believe, and despite his unease among the restrictions of military life, his individual status was less restricted than that in any other major armed service in the world. Almost the entire nation, military and civilian, protected his status and worried about his welfare.

He received in money the highest service pay in the world. He was paid in American dollars or equivalents, a medium which was itself a distinct advantage in every other country. Despite the discomfort, he had an opportunity to see something else in the world—Westminster Abbey, the Pope, Waikiki, the Louvre, and the Taj Mahal, not to mention his travels in the United States. Good food and warm clothing could not be taken for granted by many millions of people in the path of World War II, but few American servicemen sacrificed much along those lines during the war. The health of the majority of men improved in the services; and first-class medical care, dental care, eyeglasses, and so on, were provided free.

Exchanges sold him items he could not buy on the civilian economy—and at lower prices. If he were sent overseas, he re-

ceived extra pay, and could send his purchases home without paying duty or customs on them. He sent his mail around the world free. From time to time, he was given many other things at a nominal charge or without charge—books, cigarettes, newspapers, movies, the best entertainment, club facilities, and tickets. He could deposit his money in Soldiers' Deposits and get 4 percent return—officers were not eligible. A large share of his income tax was waived. He could buy the soundest of life insurance more cheaply than in civilian life. And all the time he was serving—in addition to his pay—his family was given extra family allowances.

Far from decreasing when he was discharged and returned to civilian life, his benefits increased. He found his old job guaranteed and his time in service counting for seniority. He got extra credits when applying for Government jobs. He had priority on the purchase of war surplus items. An officer returning to civilian life who had had a reasonable time in grade received an extra promotion as he departed. All men leaving the services got mustering-out pay of \$200 or \$300—or what interest is terminal leave pay to a Regular? Almost all money he had paid for National Service Life Insurance was given back to him. He was endowed with priority and with Government-guaranteed loans on the purchase of scarce homes; for him, the required down payments were made almost infinitesimal. If he liked, he could just remain around for a year and collect \$20 a week—that amounted to \$1,040 alone. (This was one privilege which was not, for some admirable reason, exploited to the hilt by most veterans.) In several states, he received a cash bonus which, in some instances, rose as high as \$900 and \$1,000. He found himself eligible for various other veterans' benefits for years or for life. Except for a relatively few recalled at the outbreak

of the action in Korea, he was fairly well assured of never having to serve involuntarily again.

Best of all, through the benefits of what was surely the most enlightened veterans' legislation ever passed anywhere, he could get a college education paid for, and additional allowances for his family while he pursued it. Surely, in the light of this generous bounty of a grateful society given to its defenders, the term "sacrifice," as used by many of the self-appointed spokesmen, deserves qualification.

It may be considered ungracious to compile the foregoing list, but the reason for doing so relates deviously but surely to the current status of the Armed Forces. Most of the foregoing provisions were included in the so-called "G. I. Bill of Rights" (note the ubiquitous "rights" terminology) which was devoted—I tend to believe, unintentionally—to the exclusive benefit of the departing temporary serviceman. The Bill's provisions did not apply to Regulars. It is difficult to credit even now, after all these years, that in the meaning of all veterans' legislation, the Regular, even if he won the Medal of Honor in the war (and some did), is not a veteran.

Speaking of sacrifice, sacrifice was the aspect of the war in which the Regular got more than his share. His sole "advantage" was his general competence and eligibility for early promotion and his continuance in what was his own profession, which could well be regarded as some partial compensation for indifference and lack of advantages which he had endured for years of peacetime service. In any event—and in all other respects—his sacrifices were at least equal to those of anyone else who served, whether in physical discomfort, separation from his family, wounds, or death. His chances of being wounded—or worse—were higher than those of any other group; and if he were a Regular officer, his chances were highest

of all. There are no slights intended here; one man's life is worth as much to him as any other man's. But it is, in Dickens' words, a "fact to reflect upon."

No Regular could buy a war surplus sedan or typewriter. No Regular officers—or non-Regulars who stayed on—received an extra promotion at the end of the war, no matter how much time they had spent in grade. No Regular could get the Government to guarantee a loan so that he could buy a home, even if his chest were covered with Purple Hearts.

Now that the services are losing the individuals whom they cannot afford to lose—their Regular officers and noncommissioned officers—it is suddenly realized that the relative benefits offered on either side of the choice made it more attractive to get out than to stay in. It has recently been computed that the benefits still available to a serviceman who leaves the service, not including the additional cost to train a replacement, currently amount to more than \$5,000; whereas, if the serviceman will re-enlist in the Regular services, he will be given a maximum bonus of \$360.

Thus, up to this point, we have examined some "hurrah-for-me" aspects of modern American society and their effects on the Armed Forces, effects whose origins obviously go back some years. There remains only a further brief examination of continuing effects.

Within a few years after the war, the shouted invective and the tumult decreased, although they have not yet really faded away. It is not as easy as it once was to whip up steam about the "brass," but there are still some who try from time to time. A few have made a career out of it. A few even succeeded in getting themselves elected to Congress after the war and carved widely, if not wisely, into the corpus of the services. And illustrating mass man's predilection for prescribing for his neighbor, and for disseminating his ideas, whatever they are, many nonmili-

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men and agencies have prescribed for the services and have been successful in having their prescriptions swallowed.

The Armed Forces are not inimical to the expression of recommendations by outside agencies; like any intelligent body, they welcome the opinions of specialists—provided the opinions are timely, informed, reasonable, and constructive, and provided the opinions are offered, not pressed.

There is no gainsaying that a few real improvements have been instituted in the military services, almost all of them sponsored by the services themselves. It would, on the other hand, be fatuous to suppose that all the "reforms" foisted on the services have been wise, or beneficial, or improvements. Some have deeply depressed and alienated professional military men, officer and enlisted man alike. They know that many of the prescriptions so successfully advocated are intended to advance, not the interests of the Nation, or of the military services, or of military men, but the special interests of the militant minority group which advocates them, a group which—and this is important—bears no responsibility for the security of the Nation.

Consider, for example, the changes forced in the Code of Military Justice. Now military justice is of fundamental importance to any military system. Its end purpose is not civilian; it is a military purpose. That unlettered, brilliant American cavalryman, Lieutenant General Nathan Bedford Forrest, once published an excellent circular to his command:

The maxim that 'kindness to bad men is cruelty to the good' is peculiarly applicable to soldiers; for all agree, without obedience and strict discipline, troops cannot be made effective, and kindness to a bad soldier does great injustice to those who are faithful and true

Many qualified observers who have par-

ticipated in the administration of justice, in both civil life and military life, insist that the previous military system—despite a few admitted imperfections which could easily have been cured without changing the system—was simply more effective than the civilian system ever was or is today in convicting the guilty and protecting the innocent. However, bar associations and other interested agencies have pushed changes in the system of military justice until the changes have interfered—as asserted in the recent Womble Report—with the requirements of military discipline.

Similarly, other nonmilitary groups and individuals—sometimes with the best of intentions, but again with no responsibility for national security—have managed to tell the military services how to run military services. The American Medical Association tells them how doctors and dentists in the services should be given advantages over all other military personnel. Retail dealers' associations have been hacking away successfully for years at the practice of the services of selling goods to their people in low-price stores from which the profits, such as they are, have been devoted to troop welfare. Musicians' unions delimit the activities of service bands. Both the retail liquor dealers and the Women's Christian Temperance Union—a strange alliance—have instructed the Armed Forces on the usage of liquor. Even the Waste Material Disposal Association recently laid down the proper procedure for the Air Force to follow in the disposal of scrap metal. It is no secret to the services that some fellow citizens consider them, in a sense, free range; any advocate can sink his ax there.

Is it realized that a rider was successfully tied to a bill 2 years ago (still in effect) which prevents officers from retiring after 30 years of service? This, after the officer has served the long 30 years under laws which told him that he could.

Can the sponsor of this rider give him back his 30 years?

Let me record here a recommendation. If a nation wants a first-class army, the first man whose morale should be attended to, the first man whose satisfaction and pride in his challenging job should be given opportunity to develop, is the Regular Army officer. From him the rest of the army gets its standards of performance and its morale; it can get them nowhere else; the process is not reversible.

The next man in the proper line for morale arrangers to worry about is the Regular Army enlisted man, particularly and emphatically the Regular Army noncommissioned officer. He takes his army standards from the Regular officer, emulates them, and disseminates them. The next proper subject for maintaining satisfaction and enthusiasm in the quality of the Army is the Reserve and National Guard officer, particularly the careerist, and next the Reserve and National Guard noncommissioned officer, particularly the careerist.

The last man in this sequence whose morale should determine the nature and procedures of an army, the last man whose military standards should be emphasized (I am not advocating either ignoring his interests or being indifferent to them) is the temporary soldier, particularly the private who has no interest in serving and none in the service. But for some years past the sequence has in many ways been reversed. As a matter of fact, you cannot enhance a private's morale by being inimical or indifferent to the morale of officers and noncommissioned officers. Some legislators may think so, and privates may think so—but it still is not so.

I suggest that the cure lies not solely in *money*, any more than it lies solely in tightening discipline, or any other single measure. Only a fool would deprecate the appeal of economic well-being; but, in turn,

only a fool or a Marxist believes that man is motivated only by economic appeal. The more we attempt to equate the services to businesses, the more we vitiate the quality of the services which transcends business values. The Old Army, smile as much as we like, had camaraderie, esprit, a sense of family that is disappearing. A well-known columnist once wrote:

I recall General Marshall when he was a colonel of the 15th Infantry in Tientsin, China. That was a very dull job for a man of his talents. He had to have something to look forward to or he could not have stuck it out. Certainly, it was not money. In the trading companies, Americans with smaller jobs and lesser responsibilities were making fortunes in salaries and bonuses. The general's compensation at that time had to be in other values. It will seriously imperil our national defense if we forget that.

There was a proprietary feeling about the service which the people in it used to share, and which, in many instances, they passed on to their sons. Probably the most revealing and disheartening expression of what is happening to the services is to hear a Regular say, "I'm not going to encourage my children to get into this. They'll be better off doing something else." Thus, he too, warily embraces the spirit of mass man.

I do not mean to imply—indeed, I would insist otherwise—that the mass-man malaise, of which the foregoing considerations are only symptoms, is confined in its effects to the Armed Forces. All elements of society, government, business, education, and other community enterprises show some effects of mass man's determination to prescribe for his neighbors and to rule, while he rejects the conditions which render him fit to rule. The influence of mass man can go either way: he can continue to rule without any desire to improve his qualification, and thus ac-

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centuate intolerable stresses within his society; or he can pursue the ideal of controlling and informing himself, first, before controlling and instructing his neighbors.

In the meantime, the inevitable result is that the military man, who is almost unique among modern men in that he is among those few who regard it as a privilege to serve their country, is restless. He feels, with some justice, that everyone but his own informed leaders dictates his conditions and course. He sees the authority, the proper authority, of his officers and noncommissioned officers watered down to where it is no longer worth the effort to earn stripes. And when a war comes, and when his boring, grinding training proves to have been farsighted and correct, and

when he fights and leads and wins, he is the first to congratulate his fellow citizens who temporarily served so well, so faithfully, and so formidably. But the voice which says "thanks" to him is very faint indeed.

What we have we prize not. In *Tales of the South Pacific*, an old Negro caretaker looks across a brand-new cemetery on a Pacific island and asks, "Dey's only so many good men, and if you uses 'em up, where you gonna git de others?" When the best military men, who devote their lives and their considerable talents to a task that requires special talents and endurance to be done properly, find the meaning and the satisfaction to be ebbing through mistaken emphases, where are you going to get the other good men?

No matter how fine its weapons, no matter how accurate its intelligence, in the final analysis, the Army is dependent upon the quality of its men. Because of the reductions we are making in Army strength, it becomes increasingly important for the hard core of dedicated career soldiers to be firmly established. To do this we shall need men of the highest competence, serving with confidence that their devotion to duty will not be an unreasonable sacrifice to themselves, and will not impose undue hardships on their families. Each career soldier must feel secure in the knowledge that, in keeping with his American heritage, he can serve his country, and still house his family decently, educate his children properly, and provide reasonably for their health and welfare. No soldier can give his full attention to the difficult and exacting duties of his profession, if he lacks confidence in the wisdom of his choice of careers. He should be guaranteed that the benefits that existed when he chose that career are not suddenly and drastically curtailed at a later date. Specifically, he must be able to compare his lot with that of his civilian contemporaries and not find too great a disparity.

General Matthew B. Ridgway

THE DIVISION ENGINEER

Colonel Marvin C. Ellison, *Corps of Engineers*
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The views expressed in this article are the author's and are not necessarily those of the Department of the Army or the Command and General Staff College.—The Editor.

THE division engineer is known as the gentleman with two hats. One of these hats is the battalion commander of the engineer battalion of an infantry or armored division. The other hat is that of the engineer on the special staff of the division commander. Uneasy is the head that fails to wear both hats firmly.

Combat operations in the Korean conflict re-emphasized the importance of the two jobs performed by the division engineer, and especially the prior planning required by the division engineer. The division commander may follow the system of direct contact with the division engineer, or he may elect to deal with engineer problems through his general staff. The division engineer must have a flexible mind and be prepared to operate to the best advantage under either system.

Being a jump ahead of the situation provides the best assurance that engineer troops and equipment will be properly employed. The combat engineer battalion of the infantry division and the armored engineer battalion of the armored division, each contain a sufficient number of engineer troops and equipment to adequately support division operations. The effective employment of this engineer manpower and equipment is the problem of the division engineer as a commander of the bat-

talion and as a staff officer of the division commander.

The planning required to stay well ahead of the situation is easier said than done. However, if the division engineer will avail himself of all of his planning agencies, as well as his battalion staff, he will be able to stay abreast of division general staff planning. The division engineer has an assistant division engineer who is available for close liaison with the division general staff. This officer should be an alert and professionally trained engineer with a crystal-ball faculty for being able to outguess the division G4 and G3. However, after a few mistakes the crystal ball may be exchanged for an eight ball.

Combat team operation built around an infantry regiment must have a healthy slice of combat engineer support in order to get places and stay when they get there. The combat team commander is usually given a mission that takes the full co-ordinated effort of infantry, armor, artillery, and engineers to obtain the objective. He is right in feeling that he must have all elements of his command under positive control to properly perform his mission.

The normal support furnished a regimental combat team is one engineer company. When the combat team is formed, the division engineer and his staff must consider whether or not their proposed plan should recommend that the engineer company be in support or attached.

The question of whether the engineer element is to be in support or attached is academic, but can it be solved by diplo-

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macy to fit the situation—and still serve the best interests of the division engineer? For the normal mission of a division in the attack or in defense of a strategic position, the greatest benefit can be obtained by placing the engineer battalion in support of the regimental combat teams. This will enable the division commander to employ the engineer battalion through the division engineer to the maximum and at those points which are considered most critical by the division commander and his staff.

When a regimental combat team is given a mission with other combat teams—performing missions secondary to the attack—the engineer company, reinforced by sufficient men and equipment, should be attached and come under the control of the regimental team commander for the duration of the attack phase. At the completion of the attack, and as stabilization is reached, the engineer company should then revert to the control of the division engineer.

In some divisions it has been indicated that the division G3 or the division G4 "runs" the engineers. This question can be firmly settled by aggressive planning by the division engineer. Logistical problems will often require planning by the G4 that will result in the G4 issuing instructions to the division engineer. This will often occur in G3 planning also. However, if the division engineer and his staff are a jump ahead of the general staff in

trained engineer officer can foresee terrain difficulties and determine the best routes of march or deployment by studying maps of areas for a planned movement or attack. The assistant division engineer must literally stay at the elbow of the division G3 in order to get in on the ground floor of division planning.

Field orders published by the general staff—for the division commander—to detail an attack, a retrograde movement, or a simple motor march should incorporate the engineer plan. The engineer can be effective in the degree that he has been able to interject a well-planned scheme for the employment of the engineer troops into the division plan.

When the division commander plans for an attack, no detail is too small to be overlooked. The engineer plan—as a part of the division plan—must assign missions for each element of the battalion. The normal employment of one line company with each regimental combat team should be standing operating procedure, with the same engineer company being attached or in support of the same regimental combat team for all operations. The employment of the same engineer company for training or for combat operations permits the development of a mutual respect and confidence which pays dividends when the pressure is on.

Engineer plans for the support of an attack must incorporate certain logistic

Leadership, diplomacy, and personality are required of a successful division engineer for he serves in a dual capacity—as the commander of the engineer battalion and as an important member of the special staff

their planning, the general staff officer is likely to accept the engineer plan as a solution to his planning problem.

The division engineer cannot afford to wait until detailed plans are issued by division headquarters. This form of planning places the cart before the horse. The

problems such as: operations of division engineer supply points, location of water supply points with instructions to all using troops, and plans for heavy equipment maintenance. The fourth line company of the battalion may be held in reserve or employed in support of artillery

units, support of armor units, and installation of roadblocks and flank barriers.

As occurred a number of times in the early phases of the Korean conflict, our forces found themselves in a retrograde movement—or as the Marines preferred to call it "an attack to the rear." When it becomes tactically necessary for the division to withdraw and permit the enemy to occupy its former positions, every step must be taken to deprive the enemy of fortifications, material, bridges, and advantageous points of terrain. Engineer plans for a situation of this type must be detailed and fully understood by all elements of the division in order to assist the division in delaying the enemy. Large quantities of antitank and antipersonnel mines must be assembled and issued to the last troops to be withdrawn from forward positions. Plans for the destruction of important rail and highway bridges must be detailed to provide a base for assembling the required demolitions for the job.

The authority to destroy a bridge or demolish a road in a defile must be delegated by the division commander only as far as is tactically necessary. The proper time to destroy a bridge is an important command decision in view of the many man-hours and valuable equipment which may be required to rebuild the bridge.

Minefields must be properly laid and

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marked, for the division is frequently required to reoccupy terrain it has formerly held. Minefields which are not laid and marked in strict conformance with the prescribed methods could lead to needless loss of personnel and equipment.

Planning for engineer support in the situation where a regimental combat team is given the mission of capturing a strongly fortified position, almost demands that the engineer element be attached to the assaulting force for the duration of the attack. Planning for such an operation should be completed well in advance of the operation and should include rehearsals of the most involved phases of the operation. Wherever possible, terrain models, mockups, and dummy installations should be provided by the engineers to ensure maximum success.

The number two hat for the division engineer should be firmly placed on a good well-balanced head. The development of esprit for the division and for the engineer battalion is the first step in the establishment of a reputation as a good battalion. The division engineer—as commander of the engineer battalion—must spend many hours in the field with every element of his battalion and see that they perform their job properly and that they are being employed as engineer troops should be employed. He must beat a path between his companies attached or in support of regimental combat teams and division headquarters. A well-informed division commander and his staff will go a long way in ensuring the proper employment of engineer troops.

Situations may arise where engineers are required to assume the role of combat infantrymen temporarily. Such situations will be rare, but when they do arise the engineer unit will profit by prior planning. Plans should provide for reinforcement of engineer units with automatic weapons, mortars, and additional communications. Many instances occurred during the Ko-

rean conflict where engineer troops fought as infantry and performed well. The first Medal of Honor awarded in the Korean conflict in the 1st Cavalry Division went to an engineer private of the 8th Engineer Combat Battalion. Engineers of this battalion were employed over periods of many days in the tough fighting near the walled city of Taegu.

A part of the division engineer's effort must be devoted to planning for engineer supplies. Close co-ordination with the intelligence agencies and general staff planning will enable him to anticipate an attack, a river crossing movement, or a retrograde movement—each type of plan which will greatly influence planning for engineer supplies. The tonnage of engineer supplies required to construct a fortified position for the division may well

equal all other supplies which are required by the division.

Supply planning must go beyond the division and gain the support available from corps and army engineers. The division engineer must aid in the commander's responsibility to enforce supply discipline. The tendency of troops in combat to become lax in handling engineer supplies may well spell disaster in future operations. Salvage operations to retrieving mines, barb wire, timber, and other engineer material will aid logistic support and will help in avoiding shortages of engineer supplies. Leadership is required of the division engineer if he is to be a successful commander of engineer troops. Diplomacy and personality will be required of him if he is to fulfill his staff function effectively.

Leadership on the part of an engineer officer is doubly demanding. It calls for all the high traits of character and professional knowledge required of the line officer. In addition, it requires the highest degree of ingenuity, technical skill, and commonsense in all the many phases of the application of engineering science to military operations and public works. The engineer officer must be both soldier and engineer, and he must strive for perfection in two fields. A good officer who has not learned the basic principles of engineering is no more an engineer officer than is the honor graduate of an engineering school who lacks the soldierly qualifications of military leadership.

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In this age of atom bombs, guided missiles, bacteriological warfare, air-borne attacks, and armored spearheads, there is an ever-increasing demand for an improved technology in all fields of military endeavor. The Corps of Engineers, in addition to being a combat arm, is also a technical service and engineer officers must be proficient in the science of military engineering.

Major General Samuel D. Sturgis, Jr.

THE CENTRAL THEME

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THE present art of war is complicated and, undoubtedly, will become even more complicated in the future. To learn to move, shoot, and communicate well is extremely difficult. Great stress has been placed—and rightly so—upon teamwork. A team, however, is no stronger than its individual members and its leaders. Therefore, anything which contributes to the task of making an individual measure up to his full capacity is a catalyst to the development of smoothly functioning teams and a compliment to the soldierly spirit of the unit as well.

This article differs from many in that it presents what *was* done in a unit to make it highly regarded by higher headquarters, and cherished in the minds and hearts of the unit's officers and enlisted men, rather than pointing out what should be done. Although many techniques were employed effectively by the 6th Armored Cavalry Regiment of the United States Constabulary—and later of the Seventh Army in Germany during 1951 and 1952—this article will deal with the central theme that permeated the unit's activities—the human touch and the importance of the individual.

First Impressions

First impressions are significant and usually have a lasting effect; this is especially true in the Army. Those who directed the 6th Armored Cavalry Regiment recognized this fact and acted diligently to ensure that the first impression of new arrivals would be favorable.

New arrivals were met at the local railroad station by a specially trained enlisted reception committee. The Regimen-

tal Band "played them onto the post" where they were served an appetizing meal. Billets—with beds already made—were assigned and an opportunity for the new arrivals to clean up was provided. This initial processing was both efficient and speedy.

In keeping with a basic tradition of the Regiment that loyalty, enthusiasm, and unit pride start from the top, the regimental commander welcomed the replacements in his conference room and personally told them about the 90-year history of the Regiment, and something of its campaigns, battles, and leaders.

The commander then led the replacements to the Regimental Trophy Room. Here, in an attractive setting, was evidence of the Regiment's past and present. Here were the photographs of each regimental commander—from the Civil War to the present. Here was a photograph of General John J. Pershing, who had served with the Regiment, and here was a copy of a letter in which he had set forth what the Regiment had meant to him. Here were battle flags, photographs of the old horse cavalry days, and modern armored equipment—together with present and past regimental trophies. As the commander concluded his remarks, he presented each replacement an attractive booklet, embossed with the regimental insignia—the legendary Unicorn—containing a brief history of the organization. With a good first impression ensured, it next became the job of the battalions to show that they, too, were both different and better than most units.

In one battalion it was the practice of the commander to review each replace-

ment's *Qualification Record*, Form 20, in order to memorize each man's name, as well as one or two pertinent facts concerning him—such as last assignment, civilian occupation, and hometown. Later, when the battalion S1 and sergeant major had seated the replacements in a classroom in alphabetical order, the battalion commander addressed the group in the following manner:

Gentlemen, we are happy to welcome you to this battalion. We are proud of our battalion and we are prejudiced concerning it because we feel it is the best organization in Germany. We are happy to have you here to contribute and help to maintain the illustrious reputation that this unit has had for the past 90 years. However, before we tell you more about the battalion, let us talk a few minutes and get better acquainted. Babcock, in the first row, I understand that your home is in Maine. Have you ever set any lobster traps? . . . Johnson, I hear you are from Brooklyn. What happened to the Dodgers anyway?

Thus, each man was called upon by name and asked a question or two. Later, after a feeling of genuine welcome and interest in each man had been established, the replacements learned of the battalion's past and present activities. As one enlisted man left this battalion, he said:

I'll never forget my surprise at being

Our greatest commanders, throughout America's military history, have proved that the central theme—the individual or human touch—is a solid basis upon which to build an efficient military organization

called upon by name when I first joined this organization. I felt as if I belonged to the outfit from the very start, that the best was expected of me, and that everyone was going to help me to do my best for the battalion.

After the battalion commander's welcome, each man was interviewed personally by the battalion S1 and sergeant major. The sergeant major, a senior non-commissioned officer, was displayed with great pride since he personified the prestige and outstanding accomplishments of the enlisted men of the organization. Throughout the Regiment, a distinct effort was made to reward worthy sergeants with the authority and prestige of key positions. Just as the first sergeant of a company was considered the outstanding noncommissioned officer of that organization, so was the sergeant major considered the best sergeant in the battalion. Because of this policy and the fact that all noncommissioned officers in the Regiment were treated with respect and dignity—they were given added responsibilities and privileges commensurate with their rank and position—it is not surprising that key noncommissioned officers were the type of men who could be pointed to with pride. To see such an individual and hear him speak prompted such remarks on the part of replacements as, "There is a soldier."

Thus, from the regiment, to the battalion, to the company, to the platoon, the replacement was carefully oriented and officially processed. Each man became acquainted with the fine old traditions of the regiment and was made to feel a part of the regiment from the beginning. Each was told that he was ex-

pected to put forth his best effort to continue the traditions and to maintain and improve the prestige of the regiment. After his assignment to a platoon, the replacement was prepared to start training with his new unit.

The Regiment followed the normal pattern of conducting training by successive phases. First, the soldiers were trained in the basic skills and techniques prerequisite to unit training in an armored cavalry regiment; then crew, section, squad, platoon, company, battalion, and regimental phases followed. Interspersed were frequent maneuvers, field exercises, firing problems, and operational missions.

On one occasion the regimental staff had decided to conduct an unannounced inspection of each company of the regiment at the end of the individual training phase. The same tests were administered under similar conditions in five posts and the results of the tests plotted on a graph. Three of the four major units which were tested scored about the same, one being slightly higher in one particular phase than the others, but each unit attaining a score in the same mean area. However, all the companies of one battalion and the battalion itself, scored considerably higher than all similar units in every subject. The question that ran through the S3's mind then was this:

What is this battalion doing during its training that enables it to be above all others in these time-proved tests? The officers and noncommissioned officers appeared to be of about the same caliber, and previous inspections had not revealed anything unusual concerning the preparation and presentation of subject matter to warrant the disparity in the results of the unannounced tests. How, then, did this

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one battalion achieve such high scores?

The battalion commander explained the excellent performance of his companies this way:

Our training follows the customary instructional phases of preparation, presentation, application, examination, and discussion or critique. We carefully organize each phase. However, we stress the one phase that is so often omitted or slighted in unit training—the examination phase. We—the battalion S3, the unit training officers, and I—decide upon the minimum that each man must know about each subject. We announce these minimum requirements and then hold the squad leader and platoon leader responsible that all the men of this unit learn and know these minimum requirements for each basic subject. Thus, the instructor knows exactly what he must put across, each soldier knows what he must learn, and each platoon leader and squad leader understands that he is responsible for requiring his men to master these fundamentals. Simple records are maintained on all men who fail to meet the standards for each subject. For instance, if a man fails a unit of instruction, he knows that he will not ask for a leave or pass until he has met the minimum standards. Instructional assistance is available each evening in each company. There is nothing new or unusual about this training method. However, too frequently we merely expose soldiers to instruction without holding them responsible for learning. We take pride in teaching well and we insist that each man takes pride in learning well.

Here, again, the central theme is the importance and responsibility of the individual to himself and to his unit. In this training situation it materially affected the accomplishments of the individual soldier as well as his unit.

In 1951, the regimental commander di-

rected an effective training exercise in which the individual soldier was taught the importance of establishing defensive positions properly and the effect of his firepower on those positions. A reinforced company prepared a defensive position—carefully adhering to such time-honored fundamentals as proper utilization of terrain, mutual support, adequate reserve, all-around defense, defense in depth, co-ordinated fire plan, and barrier plan. The bulk of the company was placed in selected defensive localities where individuals, crew-served weapons, and tanks were dug in.

Later, each tank, each vehicle, and each soldier in a foxhole was replaced by a silhouette target or a panel, of comparable size, which was labeled with the vehicle number or individual's name and properly camouflaged. The company was assembled and given the mission of seizing the high ground on which it had just organized its defense. Through fire and maneuver the reinforced company closed and seized its objective. Each man then inspected his defensive position, his individual foxhole, or tank position. He checked the target or panel which had represented him, or his vehicle, to assess the damage. One soldier, finding that a round had gone through his "paneled" head, reflected, "Next time, I'll dig just a little deeper. I would have been a dead duck in that foxhole." Although several aspects of the problem had to be simulated, the individual soldier had been afforded such an impressive demonstration of the importance of a well-organized defensive position and the effectiveness of his unit's own firepower.

Morale and Esprit

Physical conditioning and combat readiness rightly should be the basis upon which to build morale and esprit. If we teach the troops how to do a job; provide opportunities for them to apply what they have learned; set standards high and give them

something difficult—but reasonable and tactically sound—to accomplish; the results will usually be gratifying.

The 6th Regiment had a system of alerts in which the regiment would load up and move out, prepared to accomplish tactical missions. Sometimes, these alerts consisted in moving out to nearby bivouac areas. At other times, the Regiment would go from the alert into a week-long maneuver or a long tactical march.

To prepare for these alerts, each soldier was first taught how to prepare himself and his equipment, how to load, and how to move out with his unit. Successively, the crew, squad, platoon, company, battalion, and regiment practiced their alerts until they could be effected speedily.

The regimental commander then awaited a chance to test the effectiveness of the training. A blackout alert in the middle of winter afforded just the conditions and the degree of difficulty which was desired. The fact that the temperature was 10 degrees above zero and a blinding blizzard occurred during the alert was considered to be coincidental by the regimental commander. The troops, however, understood that they were "on record" and they responded magnificently. They loaded rapidly and moved out under blackout conditions. They marched miles without a mishap under almost zero visibility.

Keep the Troops Informed

If we teach our troops patiently and effectively, then challenge them, there is little doubt but that they will come through.

One battalion developed a type of meeting which was aimed at informing everyone of its past achievements and shortcomings, its present status, and its future objectives. For instance, each month the entire battalion would be marched to the post theater where its recent training exercises would be reviewed, analyzed, and evaluated by the battalion commander and

his staff. The S3 might review recent firings, accomplishments and training exercises and the S4 might emphasize the cost of training exercises to the Government—the cost of the ammunition fired, gasoline and oil used. Often the individual soldier or officer is not made to realize the tremendous expense involved in building a unit. The S1 would review the statistics of the past month and slides would be projected to show how the battalion compared in such matters as absent without leave, vehicle accident and venereal disease rates, and similar statistics, and with the other battalions of the Regiment, with the regimental-average score and the Constabulary or Army average. Corresponding data were published for the companies so that company commanders could compare the ratings of their units with other companies of the battalion. Even such statistics as the amount of money involved in reports of surveys were of interest when considered in the light of the amount of costs to the battalion—and curiosity mounted when the entire battalion total was found to be in one company. This type of formation was frequently commended as an outstanding example of a good Troop Information Program. In spite of the fact that the monthly meetings described had been initiated without regard to the over-all Troop Information and Education Program, it served that purpose admirably.

Individual Achievement

When an enlisted man or an officer distinguishes himself at a school, the Commandant of the school usually will send a letter through channels concerning the individual's accomplishments. All too frequently each commander adds a perfunctory indorsement and passes it along until the individual eventually receives it.

This usual and somewhat perfunctory type of commendation had no place in the 6th Armored Cavalry Regiment. Such citations and awards were made before the

entire battalion at the monthly meeting which was previously described. At an appropriate time, during the meeting, each individual to be commended was called up onto the stage so that the entire battalion could see him; he was publicly congratulated by the battalion commander, presented with his written commendation, and was given a rousing cheer by his fellow soldiers. In this way the individual accomplishment was given unit significance and the individual commended had experienced a sense of satisfaction and accomplishment which would not have been possible in any other way.

Although these monthly meetings were designed to make public the achievements of the battalion, a frank appraisal of the unit's weaknesses was also pointed out. The entire unit was told where it was not measuring up and definite steps concerning improvement were outlined and followed by specific directives. Criticism was made—with respect and dignity.

Various staff officers would organize these monthly meetings and, on occasions, an entire program would be turned over to the battalion noncommissioned officers. They gave exceptionally entertaining presentations of the battalion's activities. They took it upon themselves to add entertainment to the program; however, they did not lose sight of the primary obligation which was to tell the men how the battalion was shaping up.

The regiment and each battalion—and often each company—had an excellent photographer who was encouraged to record the activities of his unit and its individuals. When each award was made at the monthly battalion meetings, a photographer took pictures of the event and posted them on the battalion and company bulletin boards. Frequently, copies of these photographs were sent to a man's hometown newspaper with an appropriate story. Good photography aided not only in the training program, but in bringing



Realistic training exercises demonstrate a unit's combat efficiency. Above, soldiers preparing a defensive position, wherein each tank, vehicle, and man in a foxhole is replaced by a target or panel. Below, a soldier inspecting his silhouette target expresses horror upon finding that a round has gone through his "paneled" head.



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the 6th Armored Cavalry Regiment favorable publicity.

It is distressing to observe how the noncommissioned officers of some units are permitted to deteriorate through a lack of responsibility and respect. It is a recognized fact that no unit can reach its maximum efficiency or effectiveness without a capable and energetic noncommissioned officer structure. The noncommissioned officers of the 6th Armored Cavalry Regiment were fortunate in being able to avail themselves of the facilities of the excellent Noncommissioned Officers' Academy in Munich, Germany. In addition to this school, on occasion, the regimental commander established a regimental school for noncommissioned officers in order to replace the noncommissioned personnel who were being rotated to the Zone of Interior.

It is the author's opinion, however, that the best schooling of all was provided by duty with troops. The continuing field exercises and maneuvers of the Regiment gave noncommissioned officers ample opportunity to develop and assume additional responsibility. Because the Regiment stressed training "two-deep" for all key positions, noncommissioned officers were given command of platoons frequently and their abilities and accomplishments in these roles were a constant source of pride and satisfaction.

Advisory Councils

While the establishment of Noncommissioned Officers' Advisory Councils was not unique to the 6th Armored Cavalry Regiment, the manner in which the councils were conducted appears worthy of mention. The Advisory Councils served the purpose of providing an opportunity for noncommissioned officers to speak their minds concerning the matters which confronted them. Such matters as training methods, morale problems, and supply procedures were discussed and acted upon. Because constructive or corrective recommenda-

tions were a definite part of the discussions, the meetings never degenerated into a "gripe session" as they might otherwise have done.

Because the meetings were recorded and forwarded, through channels, the members of the councils were assured that their suggestions would be seen by persons who were capable of acting upon them. The monthly reports of the councils were acted upon by the battalion commander who viewed them as important means of keeping his finger on the pulse of his organization. In this way, minor problems—which might have passed unknown until they had developed into major problems—were resolved. The meeting also tended to keep, in channels, matters which were susceptible to breaching channels. In order to ensure that the councils served the purpose for which they were intended, all reports were reviewed monthly by the regimental commander and a quarterly consolidation was forwarded to the army commander for comment and review.

Promotion Boards

Promotion boards—consisting of both officers and senior noncommissioned officers to ensure that only those best qualified were promoted to noncommissioned officer ranks—were established and maintained. When a man came within the zone of consideration, he went before the promotion board where he was questioned to determine his knowledge of military subjects, and his advancement was predicated largely upon the approval of the board. Instructors were available to assist interested candidates who needed help. The board was conducted in such a way as to ensure that each candidate was given ample opportunity to demonstrate his ability.

When a candidate failed to receive the approval of the board, he was told the reason or reasons for his failure. It was not unusual for a noncommissioned board member to request or recommend that the failing candidate be given another chance to



Physical conditioning and combat readiness should be the basis upon which to build morale and esprit. Above, crew members evacuating an assimilated burning tank while re-enacting a battle scene. Below left, a soldier on observation post duty. Below right, personnel inspecting a 3.5 rocket launcher position during training exercises.



appear before the board again after he had been given an opportunity for additional study. Because of this system, when a man in the Regiment "got his stripes" the entire outfit knew that he had earned them.

The Regiment was fortunate in that its personnel was fairly well stabilized. More often than not, it was possible to plan and effect a program for the development of a newly assigned officer. He, too, was welcomed and as carefully oriented and received as the enlisted men. During the early phase of his assignment, the battalion commander would discuss the officer's objectives and endeavor to plan a program for his development. A detailed discussion of the officer's progress was made when the battalion commander reviewed his efficiency report with him. It was normal procedure for the commander to show an efficiency report to the officer concerned and to present a verbal, as well as a written, appraisal of his performance of duty.

The goal of the commander was to have a young officer serve first as a platoon leader, then as company executive or as a battalion staff officer, and then to round out his tour with the regiment as a company commander or regimental staff officer. Officer development was built upon a foundation of mutual confidence and ample opportunity for growth, command, and responsibility.

Outstanding officers were frequently transferred to higher headquarters. Part of every commander's responsibility is that of preparing for such eventualities. With so many opportunities to train "two-deep" in key positions, the younger officers were soon prepared to assume the

responsibility of the next higher assignment, when the occasion presented itself.

Conclusion

Perhaps the methods and measures discussed in these pages are neither new nor unusual. Many of them have been learned, forgotten, and relearned in the confusion of daily activity; however, the measures discussed are simple and effective and they all involve the central theme—the importance of the individual—the human touch.

The author once discussed an outstanding regimental commander with one of his admiring battalion commanders. I asked the battalion commander what his commander did that was so different or so unusual—what made him so outstanding?

The battalion commander answered:

He does nothing particularly new and different and yet, he is the finest commander I have ever had. However, the one thing he does—and does exceedingly well—is to remind you constantly of the many fine lessons which you have learned and have forgotten. He quietly guides his subordinates to measure up to their capabilities. That is one of the reasons that his organization is an outstanding unit.

General George S. Patton once said, "A military organization is like a tree. It must grow and continue to grow or it dies." Like a tree, the 6th Armored Cavalry Regiment has continued to grow. One reason—an important reason—is the central theme, the human touch and the importance of the individual to grow with and for his regiment.

This central theme can well be the foundation of success for a military unit. Throughout military history, the great commanders have found this to be true.

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MILITARY NOTES AROUND THE WORLD

UNITED STATES

Fixed Gunnery Trainer

The development of a new flight simulator, the *F-151* fixed gunnery trainer, a classroom device for teaching fighter pilots the tactical use of a modern fire control system, has been announced by the Air Research and Development Command. The device will improve crew quality by providing supervised training in basic techniques and procedures of air-to-air and air-to-ground gunnery. This will allow in-flight practice to be devoted to perfection of techniques. The *F-151* trainer consists of a conventional flight simulator, fire control system, spherical screen, a target image projection system, and an instructor's console. It employs a television pickup and projection system to portray a realistic simulation of air-to-air and air-to-ground targets and maintains a continuous true to life spacial situation between interceptor and target regardless of course, speed, or type of maneuver.—News release.

Transistor Autopilot

The first successful flight of an airplane controlled by an automatic pilot using transistors entirely instead of electron tubes was announced recently.—News release.

Controlled Speed Rocket

The development of the first rocket engine in this country in which the speed can be controlled was announced recently. No details of the engine, including data related to its size and power, have been released. Its development represents a significant advance.—News release.

Overseas Airmail

Under a new policy air postage-paid mail to and from military post offices overseas will be carried by regularly scheduled commercial airlines whenever possible. This policy is expected to improve service between the United States and APOs and FPOs abroad. It will also remove the uncertainty of allocations of space for mail in military carriers. Registered mail and official Department of Defense mail will continue to move by military aircraft. Where commercial air service is not available, military air transports will carry airmail, or when the volume of such mail warrants it to provide reasonable service or to meet specific delivery dates, military air transport may be used. First-, second-, third-, and fourth-class matter will be carried by ocean vessels except where such service is infrequent.—News release.

Training Costs

It costs the United States \$120,000 to train a jet pilot, and for just putting an Army recruit through basic training it costs about \$3,200. By the time the recruit has attained technical skills, the Army has spent another \$2,000 to \$5,000 on his training.—News release.

Photo-Plane

The battery of mapping and charting cameras found in the new *RT-33* photo-reconnaissance airplane is shown located in the plane's nose. The cameras, mounted inside of the black, square areas on the bottom and side of the nose, can photo-



Fast photo-reconnaissance plane is ready.

graph straight down, obliquely right or left, and directly forward. The specialized jet is a long-range, 1-seat version of the *T-33* jet trainer. The new plane contains a tape recorder with which the pilot can verbally describe what he sees as he photographs it. The 600-mile-an-hour plane is in quantity production for delivery to Mutual Defense Assistance Pact countries.—News release.

Increased Mobility

A major advancement in Army mobility was demonstrated recently when an Army *H-21C Work Horse* helicopter transported a 105-mm howitzer. In addition to being the first time this weapon has been lifted by helicopter, it is the heaviest load carried by an in-service helicopter. These planes are capable of transporting other



Mobility of artillery is greatly increased.

loads such as 20 troops, 12 litter patients plus attendants, or 2 tons of cargo. The 105-mm howitzer, the basic artillery weapon of the infantry division, and its crew can now move over mountains, rivers, and other terrain obstacles in the combat zone which for centuries have made the mobility of artillery a major problem. By the addition of two metal externally mounted fuel tanks, the range or endurance of this helicopter has been more than doubled. These tanks can be jettisoned to reduce gross weight of the helicopter if desired on long-range missions.—News release.

Revised Training

As part of the Army ROTC program, 42 military schools at secondary and junior college academic levels have been grouped into a Military Schools Division. The program is to become operative with the school year 1955-56 and is limited to established units.—News release.

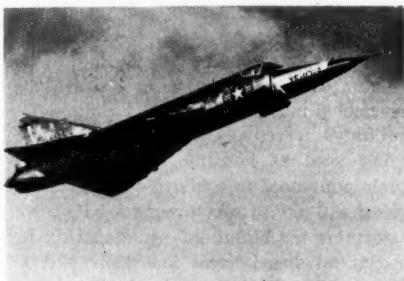
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All-Weather Interceptor

The *F-102A*, a later model of the delta-wing *F-102*, first supersonic all-weather interceptor built for the Air Force, has flown faster than sound in level flight. The newer model has a longer fuselage,



New all-weather fighter joins Air Force.

and the afterend of the fuselage is distinguished by two streamlined fairings. The delta wing is unchanged except for cambered leading edges and swept-up wing tips. The canopy has been redesigned to give the pilot greater visibility. It is powered by a *J-57* jet engine with afterburner.—News release.

More Riflemen

Marine Corps divisions are nearing completion of a reorganization of their service support and combat support units to produce more riflemen and otherwise effect maximum economy in manpower. When completed, the plan will combine all supply and maintenance functions into a single divisional service regiment. The resultant saving of personnel will enable the three divisions to convert approximately 180 officers and 4,200 enlisted men from supporting roles into frontline troops. A service regiment will combine under one command what formerly consisted of a service battalion, an ordnance battalion, and elements of a signal company, engineer battalion, and a motor transport battalion.—News release.

Mine Warfare Plane

Additional details of the Navy's new *XP6M Seamaster* (MILITARY REVIEW, Feb. 1955, p 65) reveal that the multijet seaplane has been given the mission of mine-laying and photographic reconnaissance. The swept-wing plane is powered by four *J-71* turbojet engines with afterburners. It is in the over 600-mile-an-hour class, and is designed to cruise normally at 40,000 feet. The *Seamaster* has a long, slender hull and a T-shaped tail assemblage which towers more than three stories high. Its four turbojet engines are arranged in two sets of nacelles with streamlined air intake ducts atop the wing on either side of the fuselage. Fuel tanks are sealed within the wings and the wing tips have permanent plastic floats to supply wing-tip buoyance when the aircraft is at rest on the water. The plane carries a crew of five which includes a pilot, co-pilot, navigator-minelayer, radio operator, and armament defense operator. In its hull the *Seamaster* has a watertight rotary mine door on which mine stores or camera pod can be installed interchangeably. In addition to its primary missions, the plane provides the Navy with a high-speed, water-based aircraft that could be employed in future seaplane striking forces, now under study by the Navy as a means of operating in or near enemy waters without dependence on fixed installations or foreign bases.—News release.

Magnesium Aircraft

Tests are being conducted with the *F-80C*, an experimental all magnesium airplane by the Air Research and Development Command. Magnesium is probably the best substitute known for aluminum and its supply is as nearly inexhaustible as any metal known. It is probably the most efficient structural material throughout the usable temperature ranges of the light alloys. Over-all repair costs on the new plane should be less.—News release.

Engine Family

A military "family" of small industrial gasoline engines will serve the Armed Forces if a long-range development program underway at the Corps of Engineers' Research and Development Laboratories is successful. Working closely with industry, Army engineers are developing a family of seven engines in the $\frac{1}{2}$ through 20 horsepower range which will eventually replace commercial engines in this range. Commercial engines have fallen short of meeting military requirements under adverse field conditions and when operating on military fuels and lubricants. The new engines are being designed to operate efficiently for a minimum of 1,500 hours before major overhauls are necessary, which is approximately three times the life of commercial small engines in these sizes. They will be easier to service and maintain, lighter in weight, and inherently designed to work under wide environmental extremes. During World War II, over 800,000 small gasoline engines, representing some 78 different makes and models, were procured by the military services.—News release.

Drop Carbine

As a result of observations made by the Commandant of the Marine Corps, the M-1 carbine rifle, long in disfavor, has been eliminated by that organization. The carbine was the lightweight World War II weapon of Marine officers, noncommissioned officers, and specialists. Earlier in 1954, the Marine Corps decreed the weapon unsuitable for use in the Fleet Marine Forces, which embrace the combat-ready divisions and other units. The weapon was still authorized for security forces, principally because of the number of carbines still on hand. Basic arms in the Marine Corps will be .30 caliber rifles for technical sergeants and below, and .45 caliber automatic pistols for master sergeants and officers.—News release.

Portable Structures

A long-range airlift of experimental prefabricated buildings demonstrated recently the Air Force's growing ability to capitalize on its mobility potential. In a special mission, 10 C-119 Flying Boxcars lifted 10 prefabricated steel structures, with each structure weighing approximately 10,800 pounds. According to the announcement, the structures were disassembled into 12 crates per building. The buildings were assembled later and are being used as housing by troops previously quartered in tents. They are undergoing a 6-month test program which will determine the buildings' practicability for use at advanced bases and their over-all functional suitability for Air Force use. Designed to be field-erected with ordinary hand tools and with a minimum amount of cutting on the site, the weathertight metal units are 20 feet wide and 48 feet long.—News release.

Reorganization Plan

Under the Department of Army's reorganization plan, centralized control and direction of the Army's research and development programs have been made staff responsibilities of the Deputy Chief of Staff for Plans and Research. This move is expected to give added strength to the Army's efforts in this field, and incorporates recommendations made by the Advisory Committee on Army Organization, scientists, industrialists, and the Ad Hoc committee appointed by the Secretary of the Army to implement the Secretary's plan for Army organization. This step consolidates in the Office of the Deputy Chief of Staff for Plans and Research functions which were formerly the responsibilities of the Deputy Chief of Staff for Logistics and the Assistant Chiefs of Staff G1 and G3. The actual performance of research and development for Army weapons will continue in the Technical Services.—News release.

Associations Merge

Effective 1 January 1955, the United States Antiaircraft Association merged with the Association of the United States Army. The two publications of the Associations, the *Antiaircraft Journal* and the *Army Combat Forces Journal*, also merged at the same time. The combined organization will retain the name of the Association of the United States Army and the combined publication will be known as the *Army Combat Forces Journal*. It was felt that a combined Association could promote better teamwork and esprit among all elements of the Army.—News release.

Keep Reserves Alerted

Plans to give 349,000 Reservists and Air Guardsmen specific assignments in advance, so they could start defending the country within 2 or 3 hours in the event of an enemy attack were announced by the Air Force. In addition to selecting the pilots and others for the automatic mobilization-day-jobs, the plan calls for automatic assignment of all Guard and Reserve fighter wings to continental defense and the establishment of from 40 to 45 additional Reserve bases. The decision to convert the entire Air Force Reserve structure to readiness for a wartime basis was essential because in atomic warfare there will not be time to go out and get recruits after the first bomb is dropped.—News release.

Build Training Centers

Funds for the construction of 14 additional new training centers for the Army Reserve in 10 states have been released, the Department of Army announced recently. The projects include twelve 200-man and two 400-man school-type buildings for home station training of the Army Reserve at a total estimated cost of 1.8 million dollars. This brings to a total of 139 the number of Army Reserve Training Centers for which Congress has allocated funds since 1950.—News release.

Sound Locating Set

A sound locating set, *GR-6*, is used to determine the point of origin of small arms fire by measurements made on the muzzle blasts. The set is composed of two azimuth measuring units. By arranging three microphones in the form of



Portable *GR-6* can locate small arms fire.

a right triangle, the microphone array of one sound locating unit is established. The sound wave, as it arrives at each of the three vertices, is picked up by the corresponding microphone and is amplified and recorded magnetically on a loop of steel tape mounted in a recorder. The signal is then played back and viewed on the oscilloscope. By means of the readings obtained from settings made on the oscilloscope, the azimuth of the approaching sound wave is computed on a computer. The azimuth of approach of the sound wave at the second sound locating unit is computed similarly. The intersection of these two azimuth lines determines the point of origin of the small arms fire.—News release.

Texas Tower

The Navy has awarded a contract for the first of several Offshore Radar Warning and Weather Data Collection and Reporting Stations—Texas Tower. It is to be located about 100 miles off the New England coast.—News release.

GREAT BRITAIN

Speedy Helicopter

Details of a 50-passenger, jet-propelled helicopter, the *Rotodyne* (MILITARY REVIEW Jun 1952, p 71 and Nov 1953, p 71), long on the secret list, were made public recently. The plane is designed to carry a payload of 11,000 pounds and cruise at 150 miles an hour, with a top speed of 200 miles an hour. It combines the principles of forward propulsion by propellers, linked to two 2,800-horsepower turbine engines, and a vertical lift by a 4-blade rotor powered by pressure jet units.—News release.

Interceptor Fighter

The first British fighter to achieve supersonic speed in level flight, the twin jet *P.1*, still must undergo many varied and exhausting tests before it is finally accepted. In addition to its sharply swept-back wings of unusual form, the plane gets its speed from two *Sapphire* turbojet



New interceptor fighter is speedy plane.

engines placed one above the other to cut down the width of the fuselage and permit greater streamlining. Many details of the plane are being withheld but the wing is extremely thin and the ailerons are horn-balanced.—News release.

Supercharged Turboprop

The *BE-25*, the first supercharged turboprop aircraft engine, generating 4,000 horsepower, is designed for low fuel consumption. The new engine has a reserve of power which results in constant output, whatever the conditions.—News release.

Silence Jet Roar

In order to cut down the deafening roar in aircraft factories when jet engines are tested at full throttle, a British firm has developed an open pen and muffler system. According to the announcement, the plane



System silences jet roar in plane factory.

is moved into the pen by a tractor, with the end of the jet exhaust centered in the opening of the muffler which is located in the middle of the back wall. The noise level is so reduced by the use of the muffler that it causes no annoyance at 1,000 yards and, in many directions, no noise at that distance.—News release.

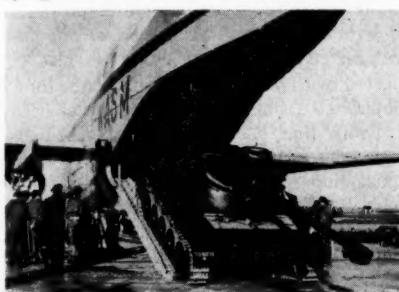
Extended Flight

British atomic scientists have been instructed to develop an atomic power unit capable of keeping a fully armed airplane in the air for 6 months without refueling, according to a recent announcement. It was reported that the Government wants a plane which, in addition to being a flying test for atomic energy, would also be capable of giving nonstop escort to sea convoys anywhere in the world. A spokesman for the Atomic Energy Authority said that such an atomic power unit was "feasible," but he was unable to disclose whether research teams had been briefed to go ahead on the project.—News release.

FRANCE

Transport Plane

One of France's newest transport planes, the *Deux Ponts*, recently made a flight carrying a 14-ton tank. Previous tests in-



Deux Ponts carries 14-ton tank in tests.

dictated that the plane could carry a load of 17.1 tons for a distance of 745 miles. Test loads included such items as 164 men, trucks, cannon, fuel tanks, and munitions.

—News release.

Electronic Camera

As the result of 11 years' work, two French scientists have developed an electronic camera which they claim will enable them to "see" 10 times farther into the universe than ever before. A 47-inch telescope will be attached to the odd-shaped glass and metal tubes device which will make it more powerful than the 200-inch telescope at Mount Palomar, California. The new camera should be able to take pictures of the heavens in 4 minutes where previously 6 to 8 hours of exposure were required. In the new camera the feeble flecks of starlight, called photons, will first hit a thin glass plate covered with a layer of antimony and cerium. This layer transforms the photons into electrons, which then pass through high-tension electrodes that step up their strength from two electrons-volts to 40,000 or 50,000. The electrons then hit a photographic plate less than an inch in diameter.—News release.

JAPAN

Defense Cut

Despite the fact that Japan's self-defense force will be increased, it is reported that the Finance Ministry expects to trim the over-all defense expenditures 16.75 million dollars during the coming fiscal year.—News release.

USSR

Rocket Development

Among the new rockets reported to have been developed by the Soviets are the *M-100* and the *M-103*. The *M-100* is an air-to-ground missile with a performance of 3,400 pounds thrust and a total weight of 990 pounds. Various versions have been produced with rectangular and delta wings of steel. A carrier plane releases the rocket at altitudes over 45,000 feet. According to the report, top speeds reach Mach 1.3. The *M-103* is a huge, 2-section rocket with a takeoff weight of nearly 100 tons. It is said that a 120-ton thrust is required to propel this rocket from its launching site. Additional reports state that it is the Soviet's largest rocket and has a range of 1,850 miles.—*Air Training*.

Atomic Plants

Soviet engineers are reported to be working on designs of atomic powered electric stations of 50,000 to 100,000 kilowatts capacity. The Government recently announced that its first atomic powerplant, a small one, had gone into operation.—News release.

Former Bases

Reconstruction of former Japanese airbases at Korsakov on southern Sakhalin, about 1,000 miles north of Tokyo, is reportedly being pushed by the Soviet Union. In addition to underground hangar construction, missile launching sites and radar installations are said to be the major sections of the building program.—*Air Training*.

SWEDEN

Training Program

Under a new training program to begin soon, the Swedish Air Force is planning to eliminate the *T-6*. Student pilots will fly approximately 75 hours in the light piston-engine *Saab-91B Safir* and then switch to the jet powered *Vampire* trainer for 110 hours student time before receiving their wings.—*Air Training*.

All Jet Force

At the present time Sweden has only one reciprocating aircraft unit in operation, a fighter-bomber group. The Swedish Air Ministry reports that even these planes will be replaced soon by jet attack fighters now in production. Most of the country's squadrons are flying *Saab 29* jets, with some *Vampires* and *Hunters*.—*Air Training*.

WEST GERMANY

Arms Budget

A total of 2,142 million dollars has been earmarked for defense costs in the next fiscal year's budget presented by the West German Government to Parliament recently. According to the announcement, this figure represents about one-third of the total expenditures of 6,614 million dollars.—News release.

Launch Ship

The first of 24 fish factory ships to be built in West Germany for the Soviet Union was launched recently. Delivery of the other vessels, all of 3,000 tons, is expected soon.—News release.

SPAIN

Arms Shipment

The first cargo of arms produced in Spain for the United States Government under the Mutual Defense Assistance Program has been sent to Turkey. The cargo consisted of land mines purchased for the Turkish Army.—News release.

BRAZIL

Open Railway

The opening of the 1,500-mile railway link between the oil-rich Santa Cruz area in Bolivia and the port of Santos in Brazil is expected to speed the development of Bolivia's eastern oil fields, among the largest in South America. It is also expected to stimulate the growth of the thinly populated frontier regions of Brazil. The railway link should pull landlocked Bolivia closer to Brazil, for Bolivia, which must import most of her food, can now have it shipped in from Brazil. Construction of the railway was started in 1938, but was halted by World War II. A treaty between the two countries provides for joint exploitation of Bolivian oil. For Brazil the railway is expected to spur exploitation of vast manganese deposits in Mato Grosso state. This marks the second recent major public improvement in Bolivia as last September a 311-mile, double-lane paved highway between Santa Cruz and Cochabamba was opened. This 45-million-dollar highway is expected to stimulate agricultural production in the Andean lowlands of Bolivia.—News release.

PAKISTAN

Monetary Aid

An agreement to provide 60 million dollars in aid to Pakistan was signed recently by the United States. Of the total amount, two-thirds will be a grant, while the remainder of the loan is to be repaid in rupees under a separate agreement between Pakistan and the Export-Import Bank.—News release.

COMMUNIST CHINA

Shorten Link

Upon the completion of a section of the railroad line between Tsining and the Chinese-Mongolian frontier, the railway distance between Moscow and Peking was shortened by 600 miles.—News release.

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TURKEY**Merchant Fleet**

In order to establish a regular fast cargo liner service between Turkey, Mediterranean ports, and the United States, the Turkish Maritime Bank has concluded contracts to purchase five cargo ships in New York and to have another six vessels built for it in Japan. The total cost of the ships will be 14.63 million dollars. The ships purchased in New York include two Victory-type ships of 10,320 tons each, two of 5,130 tons each, and one vessel of 4,050 tons. The six ships to be built in Japan include one 21,330-ton tanker, two vessels of 3,500 tons each, and three of 5,500 tons each. The first ship is to be completed in 11 months, and the last in 18 months.—News release.

Reactivate Barter Pact

A 20-year-old trade agreement with the Soviet Union providing for a barter exchange of goods has been reactivated by Turkey. There is said to be no ceiling on the quantity of goods to be exchanged, except for a provision that imports into Turkey cannot exceed exports by more than \$280,000 annually. At the present time Turkey is hard-pressed for the foreign exchange to do business with the United States, Germany, Italy, Belgium, and other countries.—News release.

AUSTRALIA**Oil Refining**

The new 90-million-dollar oil refinery at Kwinana, Western Australia, is expected to produce its first petroleum products soon. The refinery, which will produce 2,770,000 tons of refined oil products a year, is located 14 miles south of Fremantle, and about 35 miles from Perth. Its products will include gasoline, fuel oil, aviation fuel, and kerosene. It will use about 3 million tons of crude oil from the Middle East in its operations according to the announcement.—News release.

CANADA**Increase Aid**

Canada's contribution to the Colombo Plan for this year will be 26.4 million dollars, an increase of 1 million dollars over the previous year. The Plan is a 19-nation group with a 6-year, 5-billion-dollar program to build up the economic strength of South and Southeast Asian nations and thus help them to combat Communist influences. In addition to Canada, the contributing powers include the United States, Great Britain, and Australia.—News release.

Develop Fighter

A development contract for a new supersonic, all-weather Canadian fighter of advanced design has been awarded a Canadian aviation company. The plane, known as the C 105, is described as a twin-engine, supersonic, long-range, all-weather fighter but security forbids the disclosure of additional details. The company is also working on a new titanium jet engine and has already spent 4 million dollars on this new project. The use of titanium is expected to open new fields of jet power.—News release.

ARGENTINA**Spare Parts**

Delivery of the material purchased by the Argentine Air Force and the Naval Air Force in the United States has begun. These items include spare parts, engines, propellers, flight instruments, and other material required to recondition several aircraft that are grounded for lack of maintenance. It is expected that other purchases will be made soon.—News release.

ETHIOPIA**Naval Instructors**

Ethiopia is reported to be investigating the possibility of obtaining Norwegian instructors for her future Navy.—News release.

NORTH ATLANTIC TREATY NATIONS

Arms Support

More than 500 million dollars worth of arms and military supplies have been delivered to NATO forces under offshore contracts placed in Europe and the Near East. Under the contracts, deliveries consisted of ammunition, artillery equipment, vehicles, tanks, small arms, machineguns, and miscellaneous items. The contracts were let under the Mutual Defense Assistance Program which began in 1952. United States funds pay for the equipment for her Allies but local economies are bolstered by having the supplies produced in these countries. More than 1,350 million dollars in Army ordnance offshore contracts have been awarded in 14 European and Near East countries in the last 2 years.—News release.

VIETNAM

Reduce Army

Present plans of the Vietnam Government call for the reduction of its Regular Army from 217,000 to 100,000 men by the end of the year according to reports. Under the plan, the Regulars would be bolstered by a 150,000-man reserve which would be given 6 months of tough service each year. The Government hopes to keep an average of 140,000 men under arms throughout 1955.—News release.

SOUTH KOREA

Train Jet Pilots

Under the guidance of United States instructors, South Korean pilots started their training in jet planes recently.—News release.

SOUTH AFRICA

Arms Base

South Africa has proposed a system of bases with a reserve of military supplies in Africa, south of the Equator, as part of regional defense.—News release.

NORWAY

Train Crews

Under the terms of an agreement with the Royal Air Force, *Catalina* crews of the Norwegian Air Force will receive training in reconnaissance and other maritime tasks at Royal Air Force schools in Great Britain.—News release.

Test Foot Wear

The Army is testing new types of foot wear, including air-insulated rubber boots.—News release.

Titanium Resources

A Norwegian producer of titanium dioxide is re-examining its extensive ilmenite deposits at Jössingfjord. Expected to be completed in about 8 months, the survey aims to determine whether the low-grade ore can be refined to a point where Norwegian titanium will be able to compete on the world market. The production would eventually be based on an electrolytic process not used in any other country so far. Containing only about 20 percent pure titanium, Norwegian ilmenite is used to produce titanium dioxide, which in turn is used in the manufacture of paints, titanium white, and a long series of other products. Norway's production of ilmenite concentrate, containing 44 to 55 percent of titanium dioxide has increased from 50,000 tons in 1938 to 128,000 last year. One of the country's largest chemical manufacturing companies may decide to start the production of valuable titanium metal.—News release.

Activate National Guard

As part of its efforts to increase its total force to 120,000, as authorized by the Parliament, the Norwegian National Guard is increasing its training courses for officers and specialists. Every man will be required to show his marksmanship with rifle, pistol, automatic pistol, and machinegun, annually.—News release.

55 **FOREIGN MILITARY DIGESTS**

Physical Fitness in the Army

Digested by the **MILITARY REVIEW** from an article by Lieutenant J. H. Martin
in the "Australian Army Journal" June 1954.

AUSTRALIA is beginning active preparation for staging the Olympic Games at Melbourne in 1956 and as time goes on we may expect rising public interest in this event. It is appropriate to recall that the ancient Greeks developed the original Olympic Games with the primary object of improving the physical fitness of their peoples. The social and sporting aspects of the event were secondary, although important, considerations. Since nearly all male Greeks were soldiers as well as citizens, the Olympic Games tended to raise the physical efficiency of Greek armies.

That the Greeks did consider the military value of the Games is shown by the conditions of the pentathlon contest, introduced in the 23d Olympiad in 708 B. C. In this event the athletes competed in running, jumping, throwing the javelin, and wrestling, all of which were important attributes of the soldiers of those days. This event was the forerunner of the modern pentathlon, in which the contestant is assumed to be a soldier on a mission during the course of which he must ride a

horse from 2,500 to 5,000 meters (approximately 2,733 to 5,466 yards) over various obstacles, run 4,000 meters (approximately 4,373 yards), swim 300 meters (328 yards), and engage in fencing and pistol shooting contests with other entrants. Even though the modern soldier is not usually required to ride a horse, the other conditions of the contest can still be taken as a measure of individual fitness for war.

The ancient Greeks originated the vaulting horse to train their warriors to mount their steeds with speed, skill, and agility. The art of javelin throwing was encouraged as good training for war. The accent on physical efficiency was strongly stressed while the Roman Empire was at its height. The sculpture of those days inspired athletic endeavor to physical efficiency.

Swedish Drill

In more recent times, Ling from Sweden founded the comparatively modern Swedish drill system of exercise, a system which consisted of rather static exercise inclined

to be fatiguing, but from an army point of view valuable for teaching large bodies of troops to respond to words of command. Many armies of the world eagerly adopted this system. Unfortunately, the Ling system had its limitations and did not allow its devotees to reach a high standard as quickly as is desirable. A more rhythmic system of exercise developed from the Ling system and with the universities of the world accepting physical education as a science, the evolution of physical education proceeded to the present system. Physical education is now recognized as a science that cannot be mastered in a few weeks, and its teachers are required to undergo a comprehensive training in theory and practice.

The present system as formulated by the British Army is excellent, and comparable with the best principles used by any country in the world. It aims at cultivating all the desirable physical qualities most suitable to a soldier for his particular corps. Its correct application will attain the most suitable combination of physical qualities necessary for a soldier's own corps. It is a reminder that although trained minds are necessary for the design of modern war machines, trained bodies are necessary for their operation.

Physical efficiency or fitness is not great endurance, great strength, or any one single quality, but a harmonious combination of flexibility, strength, agility, speed, dexterity, and posture. It would be quite conceivable to have a long distance runner too weak to carry equipment up a steep hill, or a champion ax-man unable to jump a ditch. Minor injuries in the form of sprained ankles, strained muscles, and even hernias are often caused among athletes by insufficient attention to all the essential requirements of physical training. When these conditions occur among athletes, how much more important it is to have the physical training program of

a soldier properly conducted so that all aspects of physical education receive attention in their proper perspective. A combination of physical qualities must be attained for fitness.

Human Body

The human body is without doubt the most complicated and versatile machine in the world. Proof of versatility and power of recovery is seen by the way it survives the abuse we give it in our ignorance. The widespread abuse given to the human body is so general that life insurance firms accept as normal the fact that the average person gains at least 14 pounds in body weight between the ages of 25 and 45. Yet there is no physiological reason why we should gain 14 pounds in body weight between these ages. In the services, avoidable sickness and injury account for a larger percentage of casualties than enemy action. Despite the medical standard required on enlistment, a large percentage of members develop digestive ailments, joint weaknesses in ankles, feet, and knees, hernias, and a host of conditions which begin as postural weaknesses and develop to become serious disabilities requiring medical and surgical attention. Closer attention of physical training activities would institute preventive measures against many disabilities while raising the general physical efficiency of all members, as long as supervision is sufficiently skilled.

We all know that on the outbreak of World War II, it took approximately 2 years before it was possible to cater adequately for the physical efficiency of the Army. Many good instructors were enlisted but took some time to adapt themselves to service conditions. The system then in use could not produce results as speedily as the present system. Much equipment was substandard and considerably restricted the work. In some cases equipment was lying idle and became

broken, and some could not be used as there were not sufficient competent instructors available. Instructors did not belong to one particular branch, but were called from various branches, and consequently they lost opportunities for promotion within their own branch. This, of course, did not encourage any but the extreme enthusiast to concentrate on physical training.

It is axiomatic that physical efficiency is conducive to mental alertness and efficiency. Unfortunately, few individuals have the self-discipline necessary to improve their own physical efficiency voluntarily, although they are fully convinced of the value of systematic exercise. The weakness of our own human nature so often overrules commonsense. Stimulation from an official source is necessary to most of us to force us to take advantage of the benefits of physical training, not only from an army point of view, but also from a national viewpoint.

Need we be indifferent to the advice of Socrates when, thousands of years ago, he said:

No citizen has a right to be an amateur ('amateur' here means 'novice') in the matter of physical training; it is a part of his profession as a citizen to keep himself in good condition, ready to serve his state at a moment's notice. Finally, what a disgrace it is for a man to grow old without ever seeing the beauty and strength of which his body is capable. And in all the uses of the body it is of great importance to be in as high a state of

physical efficiency as possible. Why, even in the process of thinking, in which the use of the body seems to be reduced to a minimum, it is a matter of common knowledge that grave mistakes may often be traced to bad health.

Conclusion

The kind of physical fitness Socrates had in mind is not simply a matter of appearance. While a flabby man is undoubtedly not in good condition, it does not follow that a lean, alert-looking man is physically fit in the military sense. His appearance may be due to an accident of nature or a spartan diet, while the development of the muscles necessary for the efficient performance of his duties may have been entirely neglected. Nor will violent exertion necessarily produce physical fitness, although it may produce the appearance of fitness.

True physical fitness, the sort of fitness the Army requires, can be achieved only by regular training under an efficient instructor. It follows that the first steps in making the Army physically fit for war, and keeping it in that happy state, are:

1. An awareness on the part of all commanders of their responsibility for seeing that all personnel under their command are physically fit in the sense discussed in this article.

2. The provision of sufficient instructors.

3. The provision of sufficient time for physical training in all training syllabi and daily activity programs.

We cannot expect too much of machines alone. The finest equipment in the world is literally worthless without technicians trained as soldiers—hardened, seasoned, and highly skilled in its maintenance and operation.

General J. Lawton Collins (Ret.)

Tactical Atomic Weapons and Their Significance

Translated and digested by the MILITARY REVIEW from an article by Brigadier General Kazimierz Glabisz in "Bellona" (Polish language military quarterly published in England) January-March 1954.

IN AUGUST 1945, when the destruction of Hiroshima and Nagasaki by two atom bombs impelled Japan to unconditional surrender, it was accepted as an unassailable truism, that the invention of this new, apocalyptic weapon, marked a complete revolution in strategy—but in strategy only. No one imagined that this weapon could be used, as desired, not only on the distant rear areas of the enemy, but also in the zone adjacent to the front. It seemed too powerful to be employed on the front without exposing friendly units to injury and a reduction of its power seemed a technical impossibility.

Hence, efforts toward its further perfection were at first oriented entirely in the direction of increased power and range by making use of new planes and rockets.

Five explosions conducted in the years 1946 and 1948, as well as the production of approximately 100 giant intercontinental bombers, were striking evidence of that tendency. Further explosions of still more powerful atom bombs in the years 1952 and 1953, as well as the preparatory work begun in 1950 for the construction of a super hydrogen bomb—tested on 1 March 1954—were its confirmation.

Independently of this, studies had been undertaken early relative to the possibility of the exploitation of atomic energy as a motive power, crowned, as it is known, by the building of two submarines driven by atomic power.

On the other hand, not until 1949 was interest shown in the possibilities of the use of atomic weapons on the frontline also. It may be that at first, the researchers thought only of small atom bombs, yet it is likewise possible that at the same time, they were also thinking of atomic projectiles, rockets, and guided missiles.

When the production of those "baby bombs" of various sizes was begun and who their inventor was, has not been revealed. It is known, nevertheless, that experiments were conducted with them for the first time in 1952 on the range in Nevada. Still less is known concerning the matter of successes in the field of rockets with atomic warheads. It appears that in contrast with other types of tactical atomic weapons, small rockets with atomic warheads are not yet in mass production, although General J. Lawton Collins mentioned them as early as 1951. The Washington *Evening Post* related in more detail the genesis of the atomic artillery shells for the 28-cm cannon. This project, which, to begin with, had been regarded with scepticism by other experts, was accepted both by Army Chief of Staff, General J. Lawton Collins and the Atomic Energy Commission. For the production of these projectiles an appropriation of 50 million dollars was granted. The prototype of the projectile was produced before the assigned date and on 25 May 1953, the first atomic shell was fired over a distance of 10 miles, although the range limit of the cannon was 20 miles. At present, the number of these guns is sufficiently great that it has been possible to send a few batteries of them to Germany, and possibly, also, to Japan.

These guns, although they weigh 85 tons together with their tractors, are unusually mobile, are able to cross relatively weak bridges, and can be transported on large landing ships. Their road speed is 35 miles per hour and cross country it is 20 miles per hour. While coupled to their tractors, they may be moved not only forward and backward, but also sideways. Their powerful tubes are capable of elevations of up

to 50 degrees and can be rapidly and easily turned through a full circle of 360 degrees. For the firing of the first shot, 15 minutes is required after arrival at the position. Accuracy of fire is excellent, and especially so at great ranges.

All these characteristics, as well as their ability to fire ordinary shells, make the use of these guns possible even in mobile warfare. For these reasons, their effectiveness exceeds many times that of the long-range guns of the Germans, such as the *Big Bertha*, the *Great Thor*, and the *Mammoth*, which had calibers of 42-, 68-, and 84-cm, respectively.

One defect of these revolutionary American guns is their modest range. Therefore, as was announced sometime ago by General J. Lawton Collins, experiments have been conducted with the view to increasing their range to 50 miles. Whether or not these tests have been successful is not known. The researchers, convinced that increased range would be possible only by reduction of caliber and corresponding diminution of the effectiveness of the shell, may have discontinued the tests.

It must not be regarded as impossible that in the not too distant future, atomic shells for guns of smaller caliber will also be produced. The atomic mine also suggests itself as a future possibility.

In concluding this picture of existing atomic weapons or of atomic weapons in process of development, I must call attention to pilotless aircraft controlled from the ground, which may be equipped with atomic warheads and be employed on the frontlines. The prototype of these formidable machines, called the *Matador*, was built 2 years ago. How many of these exist at present, is not known, but the number is likely considerable, as the dispatch of several squadrons of these weapons to Germany has been announced.

So much for the different types of tactical atomic weapons which America possesses or soon will possess—exclusive of

naval types. The Soviets and Great Britain, it appears, do not possess, as yet, a single practical type of tactical atomic weapon—at least in mass production.

Obviously, if, as the well-known military commentator, Hanson Baldwin of *The New York Times*, predicts, it becomes possible to use heavy atom bombs and shells or even hydrogen bombs for tactical missions—which, however, are basically designed for the destruction of targets in the enemy's distant rear areas—America would not possess a monopoly in this field.

The undoubtedly leadership of the United States in the field of tactical atomic weapons gave rise to an excessive and dangerous optimism in some American circles, especially in 1951 and 1952. Some of the Pentagon personnel, however, including Generals Omar Bradley and J. Lawton Collins and Secretary Robert Lovett, regarded the significance of this primacy with a certain degree of reserve. Others, as Senator Brian MacMahon, went so far in their enthusiasm as almost to question the rationality of the further production of any other weapons whatsoever. Their views have not been accepted, however, there exist at the present time very considerable differences in the appraisal of the significance of tactical atomic weapons and their possibilities.

The present article is an attempt at an elucidation, although but partial, of these important and controversial problems—a hazardous attempt inasmuch as the author must base his statements only on unofficial and incomplete data published in the English, French, and German press and on the declarations of prominent American personnages. So much of this material exists, however, that certain conclusions can be drawn which, nevertheless, are by no means categorical.

It is necessary to note first that the effectiveness of the tactical atomic weapon is not as well known as that of the atom bomb of the strategic type. This is due,

principally, to the fact that Hiroshima and Nagasaki provided a far more complete and decisive picture of the effects of the "large" bombs than the experiments at the Las Vegas proving ground could give and, second, because of the fact that there are far more varieties of tactical atomic weapons. Knowing accurately the effects of a bomb of a force of 20,000 tons of trinitrotoluol (TNT)—for such was the bomb dropped on Hiroshima—it is relatively easy to deduce the effects of the bomb of two or three times greater force of explosion produced during recent years. It is only necessary to take into account the fact that the increase of effect is less than the increase in caliber, especially from the point of view of radiation effects and blast. The detailed results of the experiments with tactical weapons are held secret, and the few indiscretions of observers are neither sure nor precise. Nevertheless, it is possible to deduce a few ideas concerning the possibilities and limitations of tactical atomic weapons.

In contrast to the conventional projectiles, rockets, and bombs, the destructive effect of atomic weapons is the sum of four factors: heat, blast, radiation, and optical and acoustic shock. There is an absence, in the case of the atomic explosion, of the factor of fragmentation as is the case in the projectile or bomb, as the metal is either melted or vaporized. The effective range of the four mentioned effects varies, being dependent, obviously, on the caliber of the projectile, height of explosion, contour of terrain, type of soil, climatic conditions, and the extent to which the attacked objectives are shielded or exposed. For that reason, even the most accurate of the published figures must be viewed as relative.

The intensity of the psychological effect is, generally speaking, impossible to estimate, for in peacetime it has not been possible to conduct experiments in which individuals are exposed to this shock. The

shock may be terrible, paralyzing the will for a considerable period of time, or, it may be of relatively short duration. It will depend on various factors—for example, on the resistance and discipline of the individuals exposed to it, as well as on the degree of their concealment. It must be correspondingly less than in the case of the explosion of large atom bombs or rockets. This was confirmed by the statements of American soldiers who were entrenched on several occasions only a mile from point "zero" of the explosion.

We possess considerably more data on the physical effects of the explosions, thanks to tests on animals, fortifications, and other objects. According to a recent article, the most dangerous thing is heat, but equipment—with the exception of communication equipment and easily combustible materials—is far less vulnerable to it than exposed individuals. This heat is propagated at a fantastic speed and in the case of the 20 kilo-ton caliber bomb can produce casualties up to a distance of 8,800 feet. The closer to point "zero," the more dangerous are the burns; the greater the height of the explosion, the greater the range of the heat—obviously, however, only in reference to its capability for penetrating into entrenchments. An interesting phenomenon is the fact that the fires set in vegetation and clothing are often extinguished by the blast produced by the heat. A few layers of clothing, especially of light color, provide a certain degree of protection against burns. Rubber, nylon, and leather ignite more easily than wood.

At first, the blast travels faster than sound, but later drops to the same speed. In the lesser explosions, it travels 3,000 yards, more or less, in less than 6 seconds. As a result of this, individuals who are not too close to point "zero" are able to conceal themselves before it reaches them providing they are close to shelter and react instantly to the explosion. This

is usually not possible in the case of the heat. The most vulnerable items to the blast in the case of the 20 kilo-ton bombs are such objects as antennas, radar installations, listening posts, large supply trucks, gasoline tank trucks, and planes. A pilotless plane, which was in the air 1,760 yards from the point of burst of an atomic shell, instantly fell to the ground. A pressure of 4 pounds per square inch suffices for the destruction of an ordinary wall; 5 pounds for the destruction of communication apparatus, and 2 to 3 pounds for the infliction of minor damage. It will be helpful, for purposes of comparison, to know that the bomb dropped on Hiroshima produced a pressure of 10 pounds at 133 yards from point "zero," a pressure of 5.2 pounds at 2,000 yards, and over 3 pounds at a distance of 2,600 yards. The speed of the blast at those distances amounted to 270, 160, and 100 miles an hour, respectively. If the force of the explosion of the atomic artillery shell actually amounts to a little over 50 percent of the force of this bomb, the range and the force of the blast of its explosion should be 30 to 50 percent less. The human body, even when not protected by a trench or shelter, is assertedly sufficiently elastic to withstand the blast of this shell at great distances providing it is not injured by flying objects or thrown against a solid object. It appears, likewise, that strong shelters, and trenches over 6 feet deep, constitute sufficient protection against the blast, but obviously not in the immediate vicinity of point "zero," where a crater is formed. Shelters close to this point would obviously have their entrances blown in.

In regard to the third physical effect, paralysis by gamma rays or neutron bombardment, it is far less serious than was formerly supposed both as to immediate as well as secondary effects. This refers obviously to tactical atomic weapons and not to heavy bombs or rockets, which

generate far more radiation. These rays are emitted, as a rule, for a period of from one-tenth of a second to 10 seconds and may be lethal to an extent of 50 percent at distances up to 4,000 feet provided their minimum intensity is not below 400 Roentgens. Their effectiveness is determined not only by caliber, but also by height of burst. The greater this is, the weaker the secondary effect is, that is, the radio activation of the soil or of other objects—with the reservation, however, that damp soil retains its radioactivity longer than dry soil. Exact figures concerning this subject have not been published, but judging from the advance of formations over contaminated terrain, it can be deduced that in the case of the explosion of small atomic weapons, only the immediate vicinity of point "zero" is contaminated to a dangerous degree and the direct range of the lethal gamma radiations is relatively modest. This feature is far more dangerous, however, when the explosion occurs over or under the water of the ocean, lake, or river. The effective range of the gamma radiation is, however, far less than that of the heat and blast and, in addition to this, the contamination produced by it disappears after a certain length of time.

In addition, the fact must be taken into account that fog, rain, or falling snow limit the effects and range of the heat which, basically for human beings, is the most dangerous, also that the direction of a strong wind is able to influence in one sense or another the force of the blast. One must likewise bear in mind that dense forestation weakens the blast to a certain degree yet constitutes a greater threat because of fires. Finally, it must not be forgotten that broken terrain can limit all four of the effects of the explosion—depending on the existing differences of elevation—providing these differences and, therefore, the dead areas are large and the height of the explosion

is low. Obviously, in this case, the fact must be taken into account that reflection from the ground is able to augment blast effect and gamma radiation, but in every case, decreases heat effect.

No small influence on the effectiveness of the explosion stems also from its height which is usually fixed at from 500 to 2,000 feet. In the face of its differing effect on the strength of heat, blast, and radiation, the determination of its ideal location is not an easy matter.

Summarizing, the physical effect of the various tactical atomic weapons may be devastating, but is not necessarily so, for it depends on many incidental factors. Vigilant forces, dispersed and shielded as much as possible—usually in trenches or shelters—will not always be entirely annihilated even though they are fairly close to point "zero." However, whether those who remain alive will be in fit condition to go into action will depend on their resistance to the unavoidable shock to their nerves, whose strength it is not possible to foresee. In every case, tactical atomic weapons are, for the most part, antipersonnel and not antimatériel.

It seems that the least threatened and, therefore, the best suited weapon for action will be tanks, not only because of the fact that these, as a rule, protect their crews better from blast and even heat, but also because of the fact that they are able to operate more boldly in contaminated terrain and may be more easily concentrated, providing their radios are not damaged. Also, well entrenched infantry may suffer relatively fewer losses than the artillery or other services. Tanks, guns, iron bridges, ships, and heavy motor vehicles withstand the explosion, often, without damage, providing they are not in the immediate vicinity of point "zero."

In other words, tactical atomic weapons are not absolute weapons against which nothing is able to stand. Their destructive characteristics are enormous, yet

limited and relative. And this is the more true since these weapons, at the present time, have certain tactical defects and are still limited numerically. The advantage of atomic artillery is its precision and capacity for operation under all climatic conditions; its disadvantage is, however, its relatively short range and the impossibility of adequate camouflage for its positions. The advantage of atom bombs dropped from planes is long range and the relative safety for the planes. Their weak side is, however, the necessity for dropping the bombs from a great height, the difficulty of rapidly changing orders so that the bombs can be dropped on alternate targets, their dependence on climatic conditions, and the threat to which they are exposed from enemy antiaircraft fire. It may be, therefore, that the most effective types of the tactical atomic weapon will prove to be guided rockets and bombs as well as pilotless planes with atomic warheads.

Influence on Tactics

Although tactical atomic weapons are acknowledged to be, above all, a capital supplement of defense, their role in offensive action may also be great and often decisive. This is indicated by tests on the Nevada range conducted with a formation of ground and parachute forces. Therefore, the possession of these weapons cannot but influence radically both the action of the enemy and that of friendly forces, as well as having repercussions on training, organization, equipment, and supply.

It is obvious that this influence must be especially great where the adversary also has tactical atomic weapons at his disposal or is able, at any time, to introduce them.

The American commentators assume that their own formations will be threatened by atomic projectiles or bombs although, at the present time, with the exception of Moscow's boasts, there are no

data to the effect that the Soviets possess any kind of tactical atomic weapons. It may be, however, that prudence in this matter is quite justified. The Soviets have already devised more equipment in several fields than the West had anticipated.

Nevertheless, the appearance of Soviet atomic weapons in the front sector would be of great significance, for it would interfere greatly with the freedom of movement of the West's formations, although there would be great quantitative and qualitative superiority of tactical atomic means on the side of the West. With a monopoly in this field, the Western forces would conduct their battle largely along conventional lines. If, however, this atomic "sword of Damocles" hung over them, they would be forced to adjust themselves to this threat even though it were not powerful and were seldom drawn. It is certain, however, that in the event of a further application by Soviet or Chinese forces of "steam roller tactics," their losses would be enormous.

Offensive Action

Obviously, as Colonel George Reinhardt stressed, even the introduction of atomic weapons by both sides would not alter basic tactical and operational principles, but would certainly alter, in a well-nigh revolutionary manner, their application. The most essential changes will probably consist in still greater dependence of maneuver on fire, in the necessity for the execution of maneuver with dispersion and accelerated tempo, in the tendency toward bringing together and not dispersing the enemy's forces and, finally, in attacking at the enemy's strongest rather than his weakest point.

For the sake of greater clarity, let us examine these changes separately, from the points of view of offensive and defensive action.

On the basis of the latest tests on the Nevada range, which are more and more

frequently announced, the view has become prevalent that by skillful employment, atomic weapons will be able to play no less a role in offensive than in defensive actions. This would be especially true in the case where the enemy did not possess tactical atomic weapons of his own, lightly regarded the possibility of their existence on the other side, or were not dispersed or deeply entrenched. In such a case, the atomic battering ram would be especially effective and the friendly forces destined for exploitation of the shock could be kept near and concentrated. If, however, an atomic attack is an enemy possibility, quick exploitation of a breach and of the shock will be very difficult, for the assembly of dispersed reserves will require a great deal of time—especially of infantry units. Under these circumstances, a breakthrough through the enemy's strongest sector would have a chance of success only in case the enemy were completely surprised by the atomic attack, basted in the ensuing battle, and his main defensive position destroyed. This would not always be possible, for only seldom would the friendly forces be able to separate themselves from the enemy with sufficient promptness. Moreover, for effective offensive action, exploiting the atomic battering ram, air supremacy, harmony between fire and maneuver, simple although effective liaison, and an excellent intelligence service, would be required. Especially effective functioning of liaison would be an indispensable condition for success, for the atomic weapons would not be under the orders of division commands, but a higher command of the Army or Air Force, hence, their shift to alternate targets would not be easy. Climatic conditions would be of no less consequence and the meteorological service would have to function in a correspondingly irreproachable manner.

In spite of all these difficulties, tactical atomic weapons can facilitate attack ac-

tion and pursuit. This is also more true since these weapons are able to paralyze the enemy rear, destroy his magazines, communication centers, and reserves. They are also able to render air and naval landings easier. Obviously, atomic artillery could not take part in these actions. On the other hand, it must not be forgotten that air and naval landings, especially in their first phase, could be painfully threatened by the enemy's atomic bombardments.

Defensive Actions

There can be no doubt that these weapons are able to play a still greater role in defensive actions and this, both in the destruction of the enemy's communications, magazines, and unentrenched concentrations, and in the blocking of threatening routes, and the almost immediate support of counterattacks. The effectiveness of these atomic bombardments would depend, obviously, among other things, on enemy observation, climatic conditions, terrain configuration, and the possibility of the channeling of the enemy's movements, to say nothing of the speed, fitness, and timeliness of one's own atomic attack. For this reason, as I have already mentioned, the side that is defending itself, should not, as in classical actions, interfere with the concentrations of the enemy—at least until the proper time. On the other hand, one should channelize his movements for the purpose of producing concentrations. Unfortunately, this task would not be easy, for it would require one's own front to be wide, hence, dangerously exposed to atomic bombardment, if the enemy is capable of this.

It is clear that in defense the effectiveness of atomic weapons also has its limitations, especially in the combat of an enemy who, as the Soviets, possesses a great deal of armor or who, as the Soviet and Chinese infantry, is able to move rapidly over the terrain as well as to conceal

his movements and positions. Generally speaking, these limitations are due to the impossibility of dropping the bombs in the area immediately in front of friendly positions, or on the enemy's penetrations, as well as to the necessity of limiting atomic bombardments to only very large and important targets. There is, therefore, little likelihood that it would be possible to succeed in crushing an attack by the use of atomic weapons.

Nevertheless, the very presence of atomic weapons strengthens defense exceedingly, although only for the reason that they force the attacker either to make his attack with his forces dispersed, or to be forced to move too rapidly, or before his forces have been concentrated properly. In the first and second case, the force of the attack will suffer; in the third case it will be excessively delayed and, therefore, probably detected in time by the defender and repulsed. Much will depend on whether or not, as a few American writers predict, fortified fronts become a thing of the past.

Training

The advent of tactical atomic weapons has already brought about important changes in the training methods of the American Army and perhaps also of the Soviet's. In America, they began to take into account the atomic factor in exercises and games as early as 1950 and in all earnest in 1953. In fact, every soldier must be prepared for changed action under changed conditions—obviously, not only tactically, but also psychologically and technically. This relates to officers and men alike. Every soldier, unit, and commander must learn to evaluate but not overestimate their own and the enemy's atomic weapons.

The inculcation of one's stratagem and the teaching of double vigilance; without excessively frightening the soldier, will not be an easy task even in America which is the only country where it is possible

to familiarize the Army to some degree with the action of atomic weapons. In spite of this, however, this goal must be attained, for otherwise there will be created within the ranks of the armed forces the psychosis of excessive respect or lack of respect for the atomic weapons of the enemy or the no less dangerous psychosis of overestimation or insufficient estimation of their own atomic weapons. It is likewise necessary that the armed forces should be acquainted with the most effective means of concealment, decontamination, and treatment, as well as that they should understand that the farther away their positions are from the enemy, the more necessary is it for them to entrench and conceal themselves.

Organization

The introduction of tactical atomic weapons without doubt will strengthen the side that has a monopoly or, at least, a definite superiority in that field, to an extraordinary degree. It does not seem, however, as though these weapons could replace, at any time in the near future, any of the conventional weapons, as a few American reformers and writers imagine. One writer looks forward to the possibility of reducing conventional artillery, in time, by 75 percent and holds the view that it will, therefore, be possible to reduce some of the services, notably the ammunition and repair services. On the other hand, he sees the necessity of a considerable augmentation of recoilless artillery as well as of interception aviation accompanied by weakening of tactical aviation, for he considers the security of the positions of the atomic artillery as well as the security of airfields to be the basic condition for the success of the tactical atomic weapon. In my opinion, these conclusions are premature and, in part, do not take account either of the actual requirements of the front or of the production possibilities connected with atomic weapons.

Atomic projectiles, bombs, or rockets are too costly for their manufacture and employment in a truly mass manner. On the other hand, not all objectives can be overcome by them, especially on the front itself. For this reason, powerful conventional artillery will continue to be an indispensable and important weapon, at least as long as atomic weapons do not lend themselves to the destruction of the fore positions of the enemy. As long as it is not known whether such developments are, in a general way, possible, it is too soon to speak of the superfluity of conventional artillery. The same thing applies to the services. The danger of atomic attacks renders their activity much more difficult for it necessitates more dispersion, both when halted and on the march. For this reason, they will have to be lighter and less dependent on roads—or else still more numerous than at present to prevent the reduction of the American standard of comfort for the combat forces. It will likely not be possible to reduce the medical service, particularly, for as a result of the introduction of atomic weapons there may be truly fantastic increase in the number of wounded and injured due to shock. All things considered, it seems as though great organizational reforms will be indispensable, with the reservation, however, that the directions they will take, their extent, and the time when they will be undertaken, must be dependent on further experience, increase in the number of our own atomic weapons, and the growth of the threat arising from the atomic weapons of the potential adversary. This includes, also, reorganization of staffs as well as the outfitting of units with special equipment and accessories.

Still more dangerous than premature judgments concerning the changes inside the individual arms or services are the views of a few American circles that atomic weapons render possible a reduction in the number of divisions, in some

way or other, as well as tactical aviation, although this is the only means able to ensure control of the air—indispensable for the employment of tactical atomic weapons. But then, and quite rightly, the authors emphasize, in the introduction of the book, *Atomic Weapons in Land Combat*, that in spite of the introduction of various new atomic weapons, the need will remain for an equally large number of conventional divisions as in the prevailing tactical setup, for "atomic weapons may indeed impose caution and dispersion of forces on the adversary but they themselves cannot hold the front, provide security for themselves, or conduct the fight." It may be added, here, that they cannot achieve this even when the adversary possesses no tactical atomic weapons.

Conclusions

The introduction of atom bombs, rockets, and projectiles into actions in the front sector is, no doubt, an epochal and revolutionary event.

Like any revolutionary event, it may bring about positive or negative consequences, depending on further evolution. The consequences will be—for the side with supremacy in this field—distinctly advantageous both in a cold and hot war if, as a result of this revolutionary change, one does not ill-advisedly strip himself of the traditional means of war, but makes use of the atomic weapons only as their chief reinforcement. On the other hand, the advent of this revolution can be fatal if one weakens his conventional armament and forces either too soon or to too great an extent and plays everything on his "atomic" card which, it is true, is an ace, but of itself incapable of conducting war in any magical manner. Every new war differs greatly from the preceding one, yet not from every point of view.

The fronts of an eventual new world war—this time truly global—would be too vast for it to be possible to hold back the

pressure of the millions led in a reckless manner and fighting sacrificially, by means of atomic or even hydrogen weapons.

New tactical atomic weapons may, unquestionably, more than compensate for our numerical inferiority and, therefore, avert disaster as well as render victory easier and quicker, but only on condition that there is an abundance of living forces properly armed, trained, officered, and ready for battle against an enemy who is greatly superior in point of numbers. Such forces will be more necessary since, as was rightly stressed by an American officer, an authority on the Soviet Union, the Soviet and Chinese Armies possess many advantages which cancel out the effectiveness of atomic weapons and, on the other hand, their defects could not be properly discounted by the Western side if its armed forces were too weak.

Atomic weapons cannot accomplish all the missions connected with defense and even less with attack, even after further perfection and their mass production. This is more likely since their effectiveness appears to be questionable or at least limited even with shelters and deep entrenchment.

The premature renunciation of conventional weapons is, moreover, unpermissible for the reason that atomic weapons may, for one reason or another, be kept in the arsenals, even in highly critical situations, as was the case with gas shells at the time of the last war. General Matthew Ridgway, Chief of Staff of the United States Army, called attention to this possibility a few months ago in an address warning against too great faith in the omnipotence of the new means of combat.

In view of all these considerations, atomic weapons should not be regarded as a substitute for conventional means and living forces. They are only the complement of the latter, although a truly powerful one and one which, under favorable

circumstances, may be decisive. If they were made a substitute too soon for conventional forces and means—if they were made commonplace, that is—they would soon find themselves shorn of the apocalyptic power. Even Senator Brian Mahon who, in the spring of 1952, suggested radical cuts in conventional forces and armaments, evidently understood this fact since, a few months later, he acknowledged that, "in spite of the possession of a dozen different atomic weapons, it is not possible to wage a war from the back seat of a Cadillac, counting solely on atomic miracles." This fact was expressed no less forcibly by former Secretary of Defense Robert Lovett, former Secretary of Defense Frank Pace, and former Army Chief of Staff General J. Lawton Collins and the present Army Chief of Staff General Matthew Ridgway and, finally, by Colonel George Reinhardt and Lieutenant Colonel William Kintner in a book on atomic weapons.

All these are obviously advocates of reform, but of moderate reforms, for they see in tactical atomic weapons for the time being only a valuable supplement to other weapons. In their opinion and in the opinion of many other commentators, the advent of tactical atomic weapons truly influences tactics, equipment, training, and organization, in a radical manner, but as yet it has not dethroned the infantry from its pedestal as the "queen of arms." Without question, this pedestal has been lowered, but the infantry, supported by armor and the artillery, still continues to be the indispensable arm both in offensive and defensive actions. It appears as though its primacy would terminate only if it became possible to make use also of hydrogen or radioactive dust

weapons in action on the front. The hydrogen bomb is possibly capable of the destruction of everything that is unprotected, over an area of from 100 to 300 square miles and the radioactive dust of the cobalt or strontium bombs could penetrate everywhere.

In the event of the introduction of these terrible weapons, war would not be conducted any longer on the classical tactical or strategic bases and in an orderly manner, but chaotically and, as guerrilla war, in an improvised manner. At the present time, we are still far from this, especially since tactical atomic weapons also require further improvement and further growth although they already are no longer in their swaddling clothes.

As is well known, considerable changes have been decided on recently in the United States Army. Their aims, as President Eisenhower explained, are, among other things, to reduce the effective strength of units and number of divisions, to increase strategic reserves, to reduce the staffs and rear services and installations as well as to speed the production and improvement of tactical atomic weapons. Fortunately, the reduction of order of battle of land forces and Marines will not be great. Large reductions would be more dangerous since the constitution or modernization of conventional forces is being delayed. We may hope that in the future, also, the changes in the United States Army will not be too excessively in the direction of the replacement of men by machines, but will be gradual, that is, adjusted to the factual relation of these two decisive factors at the particular instant, and in accordance with the basic thought that machines require not only good service but also adequate human protection.

Armor in the Land Battle

Digested by the MILITARY REVIEW from an article by Major General H. E. Pyman in the "Journal of the Royal United Service Institution" (Great Britain) May 1954.

THE principle that an army must contain a mobile element as well as a more static element is as old as the history of war. The primary roles of the mobile element are to dominate opposing mobile forces; in the offensive to bring about or complete the destruction of the enemy; in the defensive to delay and disrupt an advancing enemy, and to counterattack him when he assaults main defensive positions. Offensive spirit is always the first requisite of a mobile force. These are fundamentals with which I trust you will all agree.

History

As a first historical illustration may I remind you about Megiddo, fought in September 1918.

The Turkish Eighth and Seventh Armies were ranged against the British XXI and XX Corps on a 40-mile front. Arab forces were containing the Turkish Fourth Army east of the Jordan River. Our cavalry was in reserve. Allenby had a small overall superiority, but was greatly superior in cavalry and guns. His plan was simple and bold; it depended upon surprise, speed, and perfect timing. He decided to contain the Turkish Fourth and Seventh Armies, to break through their Eighth Army near the coast swiftly, and then to pass the cavalry through to seize the Turkish supply and escape routes at El Afule and Beisan some 50 miles in rear of the front-line.

He did it and did it in remarkably fast time. Within 24 hours our infantry had broken through the Turkish defenses and our cavalry was through the gap and 50 miles in rear of and across the enemy's lines of communication: one cavalry division covered 70 miles in 34 hours. The

Turks were given no time to regain control or to plug the gap. The Seventh and Eighth Armies were annihilated.

I chose this classic example of mobility because it provided the perfect curtain for a great arm, British and Imperial horsed cavalry. And it happened only 6 weeks after tanks in France on 8 August had demonstrated that on the European battlefield they were sufficiently mature to take over from the horse as the agent of the mobile arm. Had the war gone on to unfold the ambitious armored plan prepared for 1919, the point would have been proved beyond all doubt. But peace returned and the 1919 plan, which had been conceived by a group of brilliant officers inspired by a great faith in the tank, was not required. Their work, however, continued. We may argue today that the armored division was the natural successor to the cavalry division. We may argue that the Englishmen who, as Guderian admits, originally inspired him with the conception of handling armor—that later led to the downfall of Poland and France and to the crippling of the Soviet Union—were merely assigning to the tank its correct mobile function. But if we left it like that, we would be extremely ungracious and ungrateful to a fine team of original thinkers. I purposely pay tribute to them as a team and so avoid invidious discrimination. That our own country did not make full use of their new ideas is beyond the scope of my article, but it in no way detracts from the brilliance of conceptions which time and time again led to great victories throughout World War II.

I would like now to examine some of these victories and consider in some detail the part armor played in them.

In May 1940, Guderian's XIX Army Corps—an armored corps—was largely responsible for Germany's first dramatic victory in the west. I shall quote to you Guderian's own words to his soldiers at the time:

For 17 days we have been fighting in Belgium and France. We have covered 400 miles since crossing the Belgian frontier. You have thrust through the Belgian fortifications, forced a passage of the River Meuse, broken the Maginot Line extension in the memorable battle of Sedan, captured the heights at Stonne, and then, without halt, fought your way through St. Quentin and Péronne to the lower Somme at Amiens and Abbeville. You have set the crown on your achievements by the capture of the Channel coast and the sea fortresses of Boulogne and Calais.

It was a fair description of what happened although he should have added—as he does in his detailed account—that throughout he had been superbly supported by a mass of dive bombers. It was a great achievement. Three spirited armored divisions, brilliantly commanded and boldly led, virtually won a great campaign in 17 days. In parentheses, I am proud to record that an audacious counter-stroke by the 4th and 7th Royal Tank Regiments from Arras toward Cambrai, gave the Germans, in Von Rundstedt's opinion, the most critical moment of the campaign.

Wavell's Campaign

In Wavell's desert campaign of 1940, our 7th Armored Division made a significant contribution.

In December 1940, the Italians had a quarter of a million troops in the desert; their foremost troops had reached Sidi Barrani. Wavell, outnumbered by something like 10 to 1, decided to take the offensive. First, he attacked Sidi Barrani with the 4th Indian Division and the 7th

Royal Tank Regiment, and passed the 7th Armored Division around the south to cut the Italian communications. With the 6th Australian Division taking the place of the 4th Indian Division, he repeated the same tactics at Bardia. In both actions he had great success. His administrative resources were now hard pressed. He knew that once he moved over the frontier toward Tobruk he would have to go right across Cyrenaica. Wavell decided to go on. He directed the 6th Australian Division toward Tobruk and the 7th Armored Division to Mechili. After Tobruk fell and the enemy began to withdraw from Derna, he directed the 7th Armored Division to the coast south of Bengasi. So the 7th Armored Division performed its first historic ride, and in 29 hours crossed 150 miles of desert over ground that was atrociously bad and virtually uncharted. It got behind the remains of the Italian Army and at Beda Fomm completed the destruction of the Italian armor. Throughout, it was given splendid support by a numerically inferior air force.

This was a real triumph for mobility and boldness; the enemy mobile troops were utterly destroyed. Cyrenaica and 130,000 prisoners were captured; our own casualties were a few hundred. The fighting strength of Wavell's army was never greater than 30,000.

Armored troops, of which Guderian's Group was probably the most distinguished, played a big part in Germany's invasion of the Soviet Union in 1941.

Guderian was in command of the Southern Armored Group of the Central Group of Armies. His Group consisted of XXIV, XLVI, and XLVII Armored Corps. His task was to cross the Bug River on either side of Brest-Litovsk, break through the Soviet defenses, and advance to the area Roslavl-Elnya-Smolensk. Before the Soviets had recovered from the shock of unexpected invasion, Guderian had already driven his armor about 300 miles

in less than a week up to and beyond the Beresina River. As he approached the Dnepr River in early July, his XLVII Corps was engaged in a major tank battle at Senno and his XXIV Corps in the south was facing Rogachev. The Dnepr is a formidable river. On his sector, the Soviets held strong bridgeheads at Rogachev, Mogilev, and Orsha. Heavy Soviet reinforcements were known to be approaching from the east and south. The infantry army following his armored group was 14 days behind. Guderian must have been tempted, as he was virtually ordered, to turn north and complete the destruction of a large Soviet force in the Bialystok pocket. Grasping the importance of speed and the value of deep penetration, he went straight for the river and his final objective. He ordered XXIV Corps to capture Roslavl and protect the south flank. He directed XLVI Corps upon Elnya and XLVII Corps upon Smolensk, operating south of the Dnepr River and thereby protecting its north flank. The river was crossed with light casualties on 10 and 11 July. Smolensk was captured 6 days later, after a great tank battle had raged for several days. Resistance had ceased at Roslavl by 1 August.

Soviet forces were growing rapidly in strength and in stability, but there seems little doubt that had the full energies of the German army groups now been devoted to the capture of Moscow, that city would have fallen before winter. Hitler discarded the opportunity armor gave him.

The battle of Alem El Halfa, fought just before Alamein, is interesting because armored thrust was beaten by armored maneuver combined with air support. The XXX Corps held the British north, XIII Corps the center and south, and the 10th Armored Division was in reserve. The XIII Corps had its main pivot, the 44th Infantry Division, on the important feature of Alem El Halfa, and held the south with an armored screen

provided by the 7th Armored Division. The Italians did a frontal attack and the German *Afrika Korps* swung around the British south with a main thrust directed northeast. Montgomery appreciated that as long as he maneuvered his armor adroitly, Rommel could not get far without first assaulting Alem El Halfa. Once Rommel showed his point of main effort, Montgomery let the 7th Armored Division fall back in front of it toward Alem El Halfa and the south. He then moved the 10th Armored Division on to the southwest slopes of Alem El Halfa to link up with the 22d Armored Brigade, and challenged Rommel to attack. Before this weight of armor, Rommel hesitated and, in the period of his hesitation, the Royal Air Force and our artillery completely disrupted his attacking force. Rommel was compelled to withdraw.

From Alamein until the end of the campaign in Africa, armor supported by tactical air forces played a major part in all the desert battles where terrain was so suitable for mobile operations.

Turning again to the eastern theater, Stalingrad was perhaps for the Germans the beginning of the end. The Soviet steamroller, spearheaded by tanks with masses of infantry, abundant artillery, and close air support, began its inexorable move westward. At first the Germans countered with armored counterattacks, but very soon Hitler decreed that every yard of ground should be held to the last. Flexible and mobile defense alone might have saved the Germans, as was brilliantly demonstrated by Von Manstein in the operations which led, at great cost to the advancing Soviets, to the German recapture of Kharkov in March 1943. But fortunately for his enemies, mobile defense meant nothing to Hitler.

In the early days of the Normandy landings it was our special armor—amphibious tanks, engineer assault vehicles, flame-throwers and flails, and other similar vehicles—that played armor's principal part.

It was not until we had broken out of the Bocage and the bridgehead in August that armor got going again in its true mobile role. On the south flank of the Allied thrust through France, Patton's drives captured the imagination of the world; XXX British Armored Corps' thrust from the Seine River to Brussels and Antwerp, over 250 miles in 6 days, was also a great performance. It finally prevented any idea of a German stand in northern France or Belgium. It resulted in the capture of some 40,000 prisoners and much irreplaceable equipment, it gained rapidly for the Allied cause the political advantages of a capital city, and it virtually bounced the great port of Antwerp before the Germans had put any demolitions into effect.

By spring 1945, the Soviets were ready to cross the Oder River and the Western Allies the Rhine River and, as German resistance finally faded, thousands of tanks roared toward their final objectives. On the British Second Army front alone well over a thousand tanks were in the van.

So much for examples of the part that armor played in the land battle—or more correctly, the land-air battle—in World War II. Its effectiveness always depended upon speed of action and intrepid leadership. Once it hesitated or came against setpiece defenses, it bogged down and it took masses of infantry, close support tanks, artillery, and air support to unbog it—then, if the leadership were right, off it would go into mobile conditions again. Air support was always invaluable, and the more intimate it was the better were the results. As the war went on, both sides learned to curb armor with antitank gun screens, but, except in the Far East, armor and its threat never ceased to be the principal factor in any plan. It always presented to the defense the threat of a major defeat. It always offered to the attack opportunities for a great victory; that is, provided it was

correctly launched, properly supported, and boldly led.

I come now to the second part of my article and would like to suggest how the armored battle will develop in an atomic age, in which armies as we know them will still be able to assemble for battle. Please remember that all I write from now on is my own view. I shall consider the development of the tactics, organization, and equipment of armored forces.

In the air-land battle, and that in the future will be the better expression, the principle that an army must contain a mobile as well as a more static element will remain constant, although armies will have to concentrate more quickly in time and less thickly in space. The principles of war will remain, substantially unchanged, although their application will be different, and the mobile arm will still retain its characteristic roles in the offensive and defensive.

It seems that in general, atomics will be able to arrive at their targets in one of three ways; in a bomb from an aircraft, borne by a rocket, or shot from a gun. Incidentally, since World War II, air forces have devised other means than atom bombs of inflicting very heavy casualties upon concentrations of land forces by day and by night. But the particular point that I am trying to bring out now—and it is a most important one—is that the old benefits that armies derived from air superiority as we knew it in World War II are disappearing. In the future, whenever any threat from atomics exists, massed concentrations of land forces such as we mustered on the west bank of the Rhine would be foolhardy—however effective they were at the time. Likewise, defensive dispositions such as the Germans adopted at Alamein, or we did at Alem El Halfa, would be most susceptible to atomic attack. We must accept that against atomic threats we shall have to

moderate our concentrations or control our dispersions. It is interesting to remember that as long ago as 1772, Count de Guibert—who listed Napoleon among his students—propounded upon controlled dispersions and lightning concentrations, for a different reason—to minimize administrative complications.

In offensive operations, atomics of themselves may not be able to make the gap for the mobile troops. However, they will be able to do a great deal to help in the creation of that gap, provided that immediate advantage is taken of the damage and confusion caused.

Starting on the assumption that a gap has been created either by atomics alone or by atomics supporting other land forces including tanks, or else that an open flank has been found, the method by which armored formations will be used in offensive actions might follow this pattern:

1. There will be no orthodox concentration of armored forces in space and time behind lines of departure. They will lie hidden in controlled dispersions in battle groups.

2. When the time to move comes, battle groups will be very carefully timed to move from dispersed assembly areas, past lines of departure, and straight through gaps to meet for the first time as a concentrated whole upon their main objectives which may be many miles away. This will call for superb timing.

3. Objectives must still be chosen so that they compel the enemy to react to protect or regain them and, by his reaction, to unbalance himself.

4. The hope will then be that the enemy, as he reacts, will present opportunities for the armored forces to carry out ripostes with suitable elements. If the enemy makes the mistake of concentrating too heavily in space as he reacts, our reply might be atomic, followed by a rapid armored attack.

I would now like to give you my ideas

about defensive operations because they are particularly encouraging. It seems that not only have armor and air forces a special affinity, but also armor and atomics. Consider a normal defensive battlefield with some form of obstacle in front of it, perhaps a river, or a mountain range, or a swamp, or a forest. Assume, and be safe in assuming, that you will not have enough soldiers to defend the entire area in strength. There will be strong points and there will be areas that are only screened by light mobile forces. Perhaps we might consider an army composed of three armored and four infantry divisions, in such a situation. Let us have the infantry divisions in firm localities with plenty of antitank weapons and ammunition. Behind the infantry, who will have local armored support, let us put three armored divisions out of range of the bulk of the enemy artillery. Two of them will be deployed each behind two infantry divisions. I mean deployed, so that they will avoid becoming atomic targets before the enemy assault begins. Farther back and again deployed will be the third armored division.

Eventually the enemy will attack and, for the purposes of my argument, eventually he will obtain a penetration. The breadth of his penetration will be restricted by the frontage he can attack, and by his inability to dislodge elements of our static defense. As soon as his penetration begins to show its direction by getting through the depth of the static defense, it must be brought to a halt. One of the two armored divisions deployed in the rear must counter the penetration, and must seal the enemy spearhead in, wherever he goes. Armored divisions are well designed for such a role. They have mobility and tremendous firepower, and both of these they must use to the utmost. Once the enemy is thwarted in this manner, he will have to bring up reserves.

He will probably have to move a proportion of his guns and other heavy equipment over the original obstacle in front of the defense. He will, unless I am mistaken, be greatly tempted to concentrate in space to obtain success. As the opposing army commander that would be my precise aim—to make the enemy concentrate in space. When he does, I shall ask for atomic assistance. Provided that my armored division, which no doubt will be stretched almost to the point of limit, can hold the enemy thrust with the assistance of parts of the infantry divisions which are still firm on their ground, then the battle must turn to my advantage. I have produced an atomic target and, moreover, I have remaining one and possibly two armored divisions to exploit the situation which the atomics will create, by destroying completely what remains of the attacking force. It is interesting to consider how close Alem El Halfa was to this technique: although Montgomery did not go in to kill at the end for obvious reasons.

Organization and Equipment

Those are my ideas about how armored forces, as the mobile element, will operate in the atomic tactical battle. I would now like to consider how we should develop the armored division in organization and equipment, so that, as atomic tactics pass from theory to fact, the armored division will keep step with the evolution.

Armored divisions take too long and are too roadbound in the process of reconnaissance. The main echelons of reconnaissance, namely the armored car regiment, the reconnaissance troops of armored regiments, and the scout platoons of motor battalions must learn to reconnoiter with greater speed and ubiquity. Their future equipment must be designed to that end. Proceeding with our search after speed, I would like to see more efficient radio communications. Our engineers, too, will have to increase their

speed at bridging rivers and other obstacles. I would like to see much greater medium machine-gun power within the division.

In order to reduce ourselves as an atomic target, we must drastically cut down the number of administrative vehicles.

Recently, our entire policy in vehicle development has been to seek for reliability and standardization. We have had a measure of success. In the repair of vehicles, our real need for workshop effort is immediately before and immediately after major engagements, and that effort can be produced by semistatic workshops outside divisional control.

We carry too much tank ammunition within an armored division. Great strides have been made in the accuracy of tank gunnery since the end of World War II. In considering armor-piercing shot, as a rough calculation it took seven rounds in World War II to hit an enemy tank in a tank versus tank encounter. Any gunner who takes three shots to deal with his target today has nothing to be proud of at all. An armored division carries 15,000 rounds of armor-piercing shot in first and second lines. Theoretically—very theoretically—that means that it can fire all that ammunition within 24 hours and in that time should destroy 5,000 tanks. If in any 24 hours my division could destroy one-tenth of that figure, I would die a happy man.

As tank guns get bigger, the nature of their ammunition and its carriage become a matter of growing concern. The subject requires constant study by designers and users alike.

To sum up this administrative point, I am convinced that if we ourselves do not streamline our echelons, then an enemy would soon do it for us. So we might just as well accept the inevitable. One hopes that helicopters might be able to help supply echelons in the future.

Let us turn now to the vehicles which

carry the fighting troops. At present it takes about 100 roadborne trucks to carry the motorized regiment. We will be forced more and more to forsake roads to obtain flexibility and to avoid casualties. Motorized regiments would be better suited for the future if they were to depend upon unit transportation.

It is from the tanks that the armored division must derive its power and much of its speed, albeit the infantry has a vital part to play. Such is the accuracy of antitank gunnery today, either from antitank weapons or from other tanks, that armor of itself on a tank—except upon very heavy tanks—affords only a modicum of protection. People who imagine that because of that the day of the tank is passing, just do not understand tank tactics. The tank, like the skilled boxer, has a hundred methods of avoiding a direct hit on the chin and of yet knocking out its opponent. The interplay of fire support between tank subunits, protection afforded by covered lines of approach, the devastating charge of stabilized tanks firing with accuracy, the skillful use of smoke, and the development of night fighting are all means by which the tank can still achieve its object. But future tanks must be fast, extremely hard hitting, and small. After discussing future tank designs with expert designers, leading industrial engineers, and motor manufacturers, I am confident that future tanks can still be more powerful and faster, without becoming any heavier and probably becoming lighter.

In the defensive battle which I depicted, self-propelled antitank guns have a big role to fulfill. Time and time again they will be hard pressed in their endeavor to seal in an enemy who is attempting to break out. For that type of antitank gun, first priority should again be upon fire-power, with second upon protection and last, mobility. How often, when the German was on the defensive, did the 88, either as a dug-in or as a self-propelled

gun, hold us up? How often did we have to incur very heavy casualties to break up an antitank gun line which, in fact, was very lightly held if numbers are the basis of calculation, but very heavily held if firepower is the calculation.

Interservice Collaboration

I approach my next and final point with trepidation, but no serious attempt to predict the future can be completed without reference to it. In using the term atomics, I refer to atom bombs, rockets with atomic warheads, or atomic shells fired by artillery. I trust that I have shown that the action of these atomics and the action of armored divisions are very intimately related. Superb planning will be essential if best results are to be obtained; further, bad planning may easily lead to disaster.

If the atomic or atomics which the armored division commander is ordered to exploit are ground based, then through corps or army, he will get full opportunity to influence the plan so that he will fight his battle to best advantage, but if the atomic is an atom bomb, then it is more difficult.

Conclusion

It is an established fact that association of military and air force headquarters lower than Army-Royal Air Force Group Headquarters level is not practical. Lower than that the land battle is too local and the air space above it too restricted for the Royal Air Force. Nevertheless, when armored divisions are exploiting an atom bomb, they will often be operating to split seconds and without much other support. Fullest consideration will have to be given to the armored division commander's requirements from the start of the air-land plan, especially as to where and when the bomb is to be dropped.

To conclude my brief review, I have endeavored to show that speed, boldness, and offensive action were, and must remain, the first characteristics of a mobile force.

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Throughout the history of war there have been different forms of mobile forces and different ways of acquiring that speed. At Megiddo it was the horse, and in the early part of World War II the speed of the tank had a devastating effect upon armies which were rated the greatest in Europe. As World War II progressed, methods were found to curb the speed of armor.

Now if, in the future, atomics will be able virtually to shatter sectors of defensive systems to a considerable depth

in an instant, then armor, now capable of firing with accuracy on the move, will be able to pass with speed through those gaps and enjoy mobile conditions. In addition, on the defensive, armor is an excellent agent to compel hostile armies to concentrate to their own destruction—to concentrate to form atomic targets. Armor supported by atomics and atomics exploited by armor present a new means of ensuring true mobility on the battlefield in both offensive and defensive operations.

Does the West Possess a Doctrine of War?

Translated and digested by the MILITARY REVIEW from an article by Major General
Emile Wanty in "Revue Générale Belge" (Belgium) 15 August 1954.

IN CURRENT military language, the term *doctrine* often has a restricted, narrow meaning which distorts perspective. We do not even read into the word the meaning of a summation of principles, of rules, and procedures whose aim is to codify the conduct of military operations. The term exceeds this framework, however. General Alfred M. Gruenther, Supreme Commander of Allied Powers in Europe, recently said: "We are forging for ourselves a doctrine of war." As a matter of fact, war supposes a complete imbrication of the factors of policy, and of economic, psychological, social, and military factors. Moreover, the former definitions of strategy have become incomplete and insufficient.

For the purpose of accurately establishing the problem, it will be well to go back 125 years to the great Prussian theoretician, Clausewitz (1780-1831).

A philosopher far more than a technician, he gave particular thought to the question of the relationship between war and policy, and his well-known statement, "War is the continuation of policy with other means," is quite frequently quoted.

In this abbreviated form, however, Clausewitz' thought is slightly distorted. Expressed accurately, it is as follows:

War is only a part of the business of policy and is not an independent quantity . . . War is only a continuation of policy with immixture of other means . . . It has never been anything else than a more forceful way of expressing the thoughts of policy in a language which, if it does not possess inherent logic, at least has its own grammar.

Subordinated, thus, to policy, war necessarily assumes the latter's bold and forceful, or timid and desultory, character. "War is born and receives its form from the ideas, the feelings, and the relationships which exist at the moment when it breaks out." Policy exerts the most decisive influence on the elaboration of the plans of a war or campaign. Clausewitz, in an astonishing summarization, declares: "Policy, in place of drafting notes, fights battles."

It can have a harmful influence only if it expects results from the military means that they are unable to obtain.

National leaders must, therefore, possess "a certain amount of understanding of the things of war," not of its technical factors, insists Clausewitz, but of the "philosophy of war." For precise information with regard to military matters, the commander in chief is there—but for heaven's sake, keep all the other military away from the council table, for it is a rare thing that their participation in the council is anything but prejudicial to the conduct of the war.

Before this even begins, it must be studied carefully in its entirety. The commander in chief must have determined, from the very outset, the point toward which all the lines of his campaign plan are to converge. "War is a whole whose partial results possess no value by themselves nor acquire any except with reference to the whole, itself."

Several of Clausewitz' leading ideas relative to policy and strategy were verified by World War II. A more important fact still, however, and, although Soviet Russia in her pan-Russian national exclusivism now denies all foreign contributions, it is plain to be seen that the Clausewitzian thought lies back of her grand strategy.

War and Peace

Up to 1945, war and peace were two distinct states. There was no passing from one to the other without a transition. A phase of crisis and diplomatic negotiations, which was generally short, was followed—in case of conflict—by the dispatch of an ultimatum and recourse to arms. The campaign, most frequently with limited objectives and results, was terminated by an armistice. Negotiations were begun which brought back the state of peace by means of terms which were often very moderate.

The Soviet doctrine has swept aside these concepts by means of a single extrapolation of Clausewitz' formula: "War

is the continuation of policy with other means" and, likewise, "Peace is the continuation of the struggle with the employment of different means."

In the former concept, war was a last resort—the only one possible for attaining an objective—when the normal means, which were essentially pacific, had failed. It continues to be a resort, to be sure, but only *one* among others, since all means are acceptable. "War is part of a whole and this whole is policy," wrote Lenin. The general line tends toward an objective which is probably unchanging, following a course which is entirely contingent on the circumstances of the moment, pursuing a zig-zag path, choosing the line of least resistance.

This modification of doctrine is fundamental. Peace and war have ceased to exist and in their place, in spite of the sporadic assurances of the leaders, exists a permanent conflict, an unalterable opposition between two concepts—the one dynamic but patient, the other pressed by time but reduced, by definition, to the defensive.

An active strategy of policy such as this requires permanency of objective, absolute unity of leadership, total respect for secrecy, and unquestioned convergence of efforts. There is required, in short, those very things that we so tragically lack.

On the basis of so all-embracing a doctrine, we could just as well repeat our preliminary question in another form: "Does the West possess a doctrine of peace?"

It would be presumptuous to attempt to define the permanent objective of the Soviet strategy of policy. On the basis, however, of the constants evidenced in numerous international conferences and of the visible evolution of the Soviet Union since the death of Stalin, we seem to be able to discern:

First of all, an immediate concern of

a static and defensive nature—to protect the internal development of the Soviet Union; to protect the Soviet Union against all external ideological contamination; to surround her with a protective belt of so-called satellite countries; to prevent the antagonistic world from unifying; and to produce dissension in any organization whose aim is unified action.

Next, a deferred plan to ceaselessly extend the zone of influence of the Lenin-Marxian doctrine through the instrumentality of world revolution.

Since the time factor appears to possess but a relative value for the Soviet Union, to effect, first of all, a general program of amelioration of the way of life of the Soviet citizenry by shifting the order of priority of heavy industry, to consumers' goods.

In the meantime, to ceaselessly ameliorate the positions of the pawns and pieces on the world chessboard either by means of peripheral wars by intervening countries or by means of negotiations in which much is obtained by ceding very little.

Barring error, which is always possible in conclusions relative to the Soviet mystery, we believe that this strategy of policy is characterized by permanency, continuity, and more still by the fact that it refers, at the same time, to both the immediate and the distant future. Hitler had aimed at fixing the destiny of Germany for 1,000 years. The Kremlin avoids such braggadocio—but what are 50 years in its plans if its chiefs are not animated by the prideful folly of world domination?

Weakness

Now, the chief weakness evident in the Western World—which it would be difficult at this moment to call a bloc—is precisely this ignorance of, or this indifference concerning, any future that is not immediate. In no discourse is there heard any allusion to the necessity for provid-

ing for the future, not only of the present generation, but also of the one which is preparing to receive and carry forward a very wavering torch. Certain governments attach great importance to a life expectancy of a fortnight. A short-range policy is followed, with, moreover, the almost certain knowledge that even a coherent and forceful program is in danger of becoming a dead letter in a period of time which may vary from 8 months—the average life of a government in a parliamentary democracy of the French type—to 3½ years in the United States.

Is there, at least, an objective and a program?

The reply is simple: Yes, the maintenance of peace. It may even be said to be more than simple, for it is evident that no nation in the world desires war with the unleashing of its monstrous unbridled forces. On the basis of this fact, alone, nothing would be easier to achieve than universal accord.

The various factors, however, which intervene either directly or indirectly in the conduct of nations and which govern their reciprocal relations, bring with them their own concepts of this peace for which there is a clamor.

The Soviets could repeat these words of Stalin's uttered in 1934:

The Communists do not, in the least, advocate the use of violent methods. They would be glad to renounce them if the ruling classes would only step out and let the proletariat take over.

This concept, although cynical, is clearly understandable and possesses the further advantage of being consistent.

On the Western side, the maintenance of peace is accompanied—in the case of the United States: by the recognition of its leadership; by worldwide extension of its economic power, contending with Great Britain in the latter's traditional spheres of influence; by a type of internal eco-

nomic protectorate; by an ignoring of the factual reality constituted by the enormous Chinese communistic bloc; by the elimination of "colonization."

In the case of Great Britain: by the defense of her vital economic interests; by the reconquest of lost but greatly needed markets; by the maintenance of a few strongholds—Hong Kong, Malasia; by the much threatened cohesion of the Commonwealth.

In the case of France: by the defense of the integrity of the French Union and her greatly compromised positions in Indochina and North Africa; by her suspended world prestige; by an economic autarchy which is largely outstripped by events but which, it would seem, should suffice her in her narrow national framework. We add to this the unexpressed desire to leave West Germany for a long time in a position of tutelage.

We mention only the most obvious features, the short-range objectives in the interest of self-preservation which too often meet with the double opposition of the respective tendencies of the great Allied countries.

There are no countries, even down to small ones like our own, that do not have their own particular concept of peace. It is, moreover, similar to the one possessed by peoples in general. It is, however, accompanied by anxieties in the domain of facts—for example, with regard to the future of the Congo—and, by extension, the future of all of Africa.

Common Objective

There does exist a common objective: the defense of Western civilization and in its most simplified and most eloquent expression, the defense of the dignity of man. But since two great wars tore the world asunder in the name of great and much magnified principles; since the sacrifices consented to were rendered vain by innumerable errors, the nations exhibit

little enthusiasm for abstractions. The progressive secularization of minds renders impossible an effective appeal to the only true factor of unification: the former Christian civilization. The civilization inherited from Latinity or humanism is a notion that is not easily understood by the masses, while no state makes the effort necessary for making of it a living reality. Civilization, in its purely material form, extends from the "American way of life," which is beyond our reach, to the poverty of millions of Italians who are without a minimum shelter. And where this too-crying poverty is rife, it is the very negation of human dignity that asks, at least, for the right to live.

A minority, only, of the peoples of the Occident, know the moral values that are worth defending, but if this permanent struggle is to have any chance for success, this minority would have to become a majority. It is far preferable that the social factor, joined with ideological reconstruction, rather than the factor of policy and the military factor, be given first place in a practical way in the establishment of a doctrine of peace aimed at preventing war and, in case of need, at making the Occident a true moral bloc arrayed for the defense of a tangible reality.

It is in the nature of things that this doctrine should possess a twofold character: worldwide and universal.

Worldwide: our globe, which has shrunk to an astonishing degree, is the stage on which everything finds its place, on which everything occurs. There exists an interdependence, sometimes loose, sometimes close, between events. The doctrine of the opposed groupment—a compact Eurasian bloc without apparent fissure, with excrescences in many other countries—is undeniably worldwide.

Universal: the curious factual condition designated as cold war, concerns all sectors of human activity. This struggle,

waged almost without disguise, is conducted in all domains and must be repelled to with means suited for winning back the ground that has been lost.

It is now quite apparent that from the point of view of this worldwide and universal form, the doctrine of the free world is only an appearance without any substantiality.

The "leadership" is assumed by the United States, but a rapid analysis will show the complexity and inefficacy of the present system in the face of the Eurasian bloc.

The United States participates:

1. In the North Atlantic Pact (April 1949), with the United Kingdom, Canada, Iceland, Norway, Denmark, the Netherlands, Belgium, Luxembourg, France, Portugal, Italy, Greece, and Turkey. An attack on one of the members will be regarded as an attack on all.

2. In the Pact of Rio de Janeiro (August 1947), concluded with 20 Central and South American countries, and republics of the Antilles. In case of aggression against one of the parties, the others will lend it assistance, upon request.

3. In the so-called Anzus Pact (September 1951), with Australia and New Zealand in which its members recognize that an attack in the Pacific against one of the parties will imply a joint reaction.

4. In the Pact of the Philippines (August 1951), ensuring an alliance of the two signatories against a "potential aggressor in the Pacific."

5. In the Japanese Pact (September 1951), maintenance of American forces in Japan for "ensuring peace and security in the Far East."

6. In the Korean Pact (August 1953), guaranteeing South Korea American aid in case of "threat by armed aggression coming from the exterior."

To the possible potential threats which have existed since 1950, it would have been necessary to present a united and coherent

front, a common policy resulting from a compromise between the various interests at stake. As a result of having neglected this, three great world powers—the United States, Great Britain, and France—have been pushed about and are still being pushed about without much hope of correcting the situation. Leadership vested in a single power would not have fitted in any of these situations. Only a form of joint control with common interests would have permitted practical solutions.

Problems

The efforts made finally in 1954 to conclude a Southeastern Asiatic Pact, in spite of all the unpleasant precedents, are being made in dispersed order. Even granting that they are successful, that they give positive results for 2 or 3 years, what is this in the face of a solid policy that is sure of itself, which stakes out its course and knows where it is going? The breach in Southeastern Asia, even if stopped for the time being, will continue to exist. From now on it will constitute a point of least resistance in the case of a violent conflict.

Single leadership, endured too often with impatience by the two principal partners, has given evidence of too many weaknesses to be the solution of the future. Assumed by too great a number of large, medium, and small nations, it is unthinkable. They must be informed and consulted in regard to the problems which interest them directly, but any coalition suffers from having too many heads.

For many years, the dream of Churchill has been to realize an Anglo-Saxon control over world affairs. A France which has regained a clear conception of her true national interests and international responsibilities should, normally, join forces; and perhaps by force of circumstances, Germany also—but in the more distant future. Moreover, it is necessary that these powers manage to come to an

agreement in a definitive and permanent program that cannot be continually modified by the instability of the parliamentary governments.

To tell the truth, these difficulties are enormous, but just as long as they are not solved, it would be vain to believe in effective resistance in a cold war and less even in the possibility of working out coherent strategic plans on a world scale.

It is, in a way, the "brain trust" which works out, in the form of general plans, the common strategy resulting from annual meetings between 14 ministers of foreign affairs assisted by 14 chairmen of the committees of the national chiefs of staff. The Commander in Chief of the European Theater, General Gruenther and the Commander in Chief of the Atlantic, are the first stage executors of these plans.

The necessary, although Utopian solution under the present conditions, would be the existence of a standing group supervising world and total strategy under the orders of a restricted, permanent, and stable world policy committee. A triple team: the United States, the British Commonwealth, and the French Union, would come nearer to counterbalancing the double team of the Soviet Union and the Chinese Republic in the field of the strategy of policy.

In the light of the progress which has been realized by Soviet armament, a progress which is more continuous, it must be confessed, than that of the West, we may summarize the world situation as follows:

The numerous members of NATO are, at the same time, separated and bound together by the North Atlantic and the Mediterranean. Seaways, in an eventual third world war, will continue to possess great importance, but it may be affirmed immediately, that their security will be very gravely threatened from the very outset. Soviet Russia would be able to launch a submarine offensive on a scale that Germany was incapable of realizing

even during the height of her unrestricted fighting in 1917 or 1942-43. The Soviet Union has created, and is ceaselessly developing, an imposing submarine fleet which will confer a redoubtable acuity on the problem of the transportation of troops, matériel, and food. Moreover, the Eurasian bloc is infinitely less vulnerable to this weapon except, perhaps, in the Far East where continental China would be deprived of the aid of Southeastern Asia on the assumption that the latter will rapidly fall into Communist hands.

The European portion of NATO, and especially the Nordic and eastern groupments, is, and will continue to be, dangerously exposed to a ground offensive. It does not as yet possess covering units in sufficient number for blocking such an offensive for the necessary time. Nor does it have the mobile reserves, which are indispensable both for occupying a position of resistance and for maneuvering in the rear of it. There is no need, however, for stressing these evident facts, or the value of German aid for the reduction of the state of disequilibrium.

The hypothesis of an offensive reaction by the West during the course of the first phases cannot be counted on without verging on presumptuousness. The only chance of threatening the aggressor on his vulnerable flank would be by means of the Balkan Alliance which is in the process of formation and includes Turkey, Greece, and Yugoslavia.

Since the unfortunate experiences of Charles XII of Sweden in the eighteenth century, of Napoleon in 1812, and of Hitler in 1941-43, we must accept as axiomatic the impermeability of the Soviet territory to a decisive offensive in depth.

In the air, for a few years, the monopoly of the atom bomb was the surest guarantee of peace during the period when the Soviet Union, which was militarily powerful, was faced only by the unarmed vacuum of Western Europe. At that time, although

definitely vulnerable to a decisive air attack, the Soviet Union rapidly regained ground and although she does not yet match the United States in this domain, she, nevertheless, exerts over the latter the threat of reprisals or, perhaps, even the threat of the initiation of destructive bombing attacks. At the same time, she is equipping herself for her own active and passive defense. Western Europe, which hardly possesses the formidable means necessary for realizing this entirely relative security, is now, and will continue to be, especially vulnerable to air attack.

Weak Points

We must look at the fact objectively, not deceiving ourselves by wishful thinking, that in its present condition, the free world presents three vulnerable sectors to aggression: in the air, on the ground, and on the seas, and at the same time, four principal objectives: in Asia, in Europe, in Africa, and in the interior of each country.

This represents a great many weak points for nations who continue to act blindly in a dispersed manner.

This last tendency is also very clearly marked in the military field as a result of the specialization and the autonomy of the three great arms—aviation, ground, and naval forces—in our camp. The prognosticators have an unfortunate propensity for regarding and attempting to solve the problems of war on the seas, on the ground, and in the air, separately, without taking into account sufficiently their reciprocal interdependence.

As a result of having doggedly defended their naval positions in the Mediterranean under astonishing conditions of inferiority, the British retained Malta; harassed, and then liquidated, with the help of the Royal Air Force, the Italian transportation system to North Africa; protected Egypt; and lastly, recaptured Cyrenaica. It was, however, because of the over-all insuffi-

ciency of their means resulting from the French collapse of 1940, that they were able to send only a very small fraction of their fleet to Malasia, thereby losing Singapore. The disastrous repercussions of Pearl Harbor on the American bases in the Pacific are well known. Examples abound, in truth, showing the reciprocal reactions between the great arms and proving the imperious necessity of a directing and co-ordinating brain.

What dangers does one expose himself to if the immediately available forces in each country are broken up and scattered over the world in small fractional parts, no one of which is sufficient for meeting the local needs, and if, in each country, the responsible authorities pull against one another, each proclaiming the pre-eminence of his own arm.

The United States, which has military missions in more than 40 countries, troops in West Germany, in Japan, and in South Korea—and also in France, Spain, Great Britain, Italy, Trieste, Turkey, Morocco, and Libya, possesses only about 20 divisions altogether. The United Kingdom has its forces distributed in West Germany, Trieste, Libya, the Suez Canal Zone, Cyprus, Kenya, Malasia, and Hong Kong. Over and above these forces, she possesses almost no ground reserves worthy of the name. France refuses to engage her national contingent in external territories, but in Indochina, national cadres functioned in an alarming manner in the war which lasted for more than 7 years. She possesses reserves but has little capacity for officering them.

Thus, lack of unity in the case of the strategy of policy is accompanied by a planetary dispersion of manpower over a peripheral cordon. Not the famous cordon which, in case of almost complete insolvency on the part of Europe, an Anglo-Saxon strategy of isolationism could fall back upon. The present belt is composed of all the countries which border the coasts

of the Atlantic, the Mediterranean, the Persian Gulf, and the South China Sea, constituting, in short, a vast system of bridgeheads for covering the aid coming by sea. From these bases scattered along this vast belt, air attacks converging on the continental bloc could be launched.

On the other hand, in his central positions, the adversary is able to concentrate his ground forces—by effecting economies in theaters of operation which are not seriously threatened—and deliver a violent blow against one or two vulnerable points of the periphery.

This is the very principle of the "maneuver over interior lines." All things considered, such an attack will necessarily be a surprise attack because of the total insufficiency of the forces of the Western World and their dispersion.

Let us take, for example, the Far East in case of a conflict of an acute order. There are the American forces in South Korea and Japan, numerous South Korean divisions, a Nationalist Army in Formosa, a Philippines Army, the French Army in South Vietnam, Portuguese units in Macao, and Dutch units in the Sunda Islands, plus the fleets of the three great powers. However, a sudden attack across Siam in the direction of Malasia—or any other hypothetical attack—would catch them utterly unprepared: no unity of policy, no politico-strategic direction but, on the contrary, divergence of interests, no co-ordination of a global military order, and, lastly, an absence of all plans for co-operation between the forces of the ground, sea, and air.

This course, if persisted in, will mean playing a losing game, any time.

One of the most obvious defects in our system—or lack of system—is the weakness of our strategic reserves. It is almost certain that we are unavoidably doomed to find ourselves in a state of initial inferiority in the face of every attack, no matter when or where it occurs—even con-

ceding a short period of crisis in which we may orientate ourselves. To be able, after the shock of the blow—on the hypothesis that the damage done will be limited to shock—to acquire a certain degree of balance, we must effect a rapid and massed concentration of reinforcements at the point where it is desired to effect a reaction: divisions, tanks, airborne forces, and artillery.

The necessary condition for this is to have them immediately available: this is a truism.

The demographic strength of the free world is in no wise inferior to that of the antagonistic bloc, but for various reasons which we do not have room to discuss here, its resources have not been sufficiently exploited for creating large combat units. The total population of the free world could, however, furnish a larger number of divisions than is now organically provided.

This factual situation deprives the strategy of policy of every possibility of rapid and effective intervention at whatever point of the globe this may be required.

Progress would be realized in this direction if we constituted a "pool" of the presently available forces in each great, potential world theater of operations, beginning with that of the Pacific, and organizing, in a rational way, their division into groupments for initial intervention and strategic reserves—these last comprising forces from the United States, the Philippines, Australia, New Zealand, and possibly forces from Formosa and South Korea.

The same observation holds for Europe, in which France and Great Britain should attempt, by means of a more realistic and economical revision of their organization, to augment their own reserves; and in which Germany could add the weight of her contingents. It would be well to remember, in passing, that large strategic

reserves are available on the Iberian Peninsula.

In the Near East, these reserves would be constituted by the British forces stationed between the Suez Canal, Cyprus, and Libya.

This supposes, however, that all the problems which divide the Allies, have been solved.

In the great theaters of operation thus defined, with ground, naval, and air forces at their disposal, a close co-operation should be established between the three arms without excessive or exclusive specialization. Such a unification of command is in force at the present moment in the Central European zone of NATO, in which the ground operations, those of the tactical aviation, medium range bombing aviation, and those of the coastal fleets, are controlled by a single superior command.

We should still need to establish a connection between the three great theaters of operation defined as follows: western Europe and the western and central Mediterranean; eastern Mediterranean and the Middle East; Far East and Pacific, to which would be added an Arctic theater of operations. Under the present conditions, this connection could be nothing else than a weapon of a very high rate of speed and great power, rendering it possible to carry the offensive into the only vulnerable domain of the adversary: the air—against his vulnerable points, namely, his industrial centers and his gasoline reserves.

Conclusion

Strategic bombing, conducted by a general "pool" would be the final means the standing group in charge of world and total strategy would possess—both as an offensive means and a reserve.

A study such as this, confined to the most prominent features only of an infinitely complex problem, can have no conclusion—unless we call the wall which bars passage in a dead end street, a conclusion.

The present system possesses a truly nebulous character. There could result from it, sooner or later, a disassociation of the alliances, with each of the contracting parties assuming his liberty to act alone and to hasten to his destruction. Or, again, a regroupment of the peoples of the Western World into at least two associations. Or, finally, a decisive tightening of the existing bonds transposing to a worldwide scale what it has been possible to realize on the Atlantic level.

Under the present conditions, the first hypothesis appears to be the most probable in spite of all the dangers of which it would be the harbinger. When one considers the great number of obstacles in the way to the constitution of a Little Europe, a sensible solution, a solution with political and economic autonomy, a solution which would survive, one is naturally skeptical with respect to vaster realizations.

These would require, as a matter of fact:

1. An entirely clear, mutual understanding, not only of the interests of each country but also of the various national mentalities.

2. A *modus vivendi* in the form of a general program.

3. An exact and complete definition of the purposes of a strictly defensive and conservatory alliance aiming at peace through general prosperity. This supposes a determination of the points of a material and, especially, of a moral nature on which it is impossible to yield in the least.

4. Common pooling of economic and financial means for ameliorating the living conditions of the least favored elements of the free world and the creation, by this means, of a solid moral foundation.

5. The determination and respect of the zones of interest of the principal signatories or the exercise of an influence in common in certain sectors.

6. The defining of a stable strategy of policy accepted by all.

7. The preparation and pursuit of a single military strategy on a world scale.

8. The close co-ordination of ground, naval, and air forces permanently stationed in each of the large, essential strategic zones.

9. The reconstitution of co-ordinated general reserves through an effort at economy in the utilization of means.

We are not yet even on the eve of any such series of realizations. The required psychological shock could be produced only by excessive haste on the part of the antagonistic bloc in exploiting the advantages already obtained as exemplified in Korea in 1950.

It seems to us, however, that another conclusion could be drawn along these lines. If the slow and crafty disintegra-

tion of the Western alliances continues, as a result of fatal lack of understanding on the part of the large countries, it will be utterly useless for the communistic world ever to resort to a war of aggression on a large scale. Within a period of time, which it would be difficult to calculate but which probably will not extend over a period of a generation, it will be able to dictate its wishes to divided and powerless adversaries. And at this moment, there remain only certain moral forces with which to meet this danger.

Rather than look for poor reasons for basing our hopes on a purely verbal optimism, it is better to look at matters as they really are. The defense of civilization as we picture it, or such as should be made a reality, depends only on all of us agreeing instead of following individually our own particular and divergent interests.

How to Write Effective English

Digested by the MILITARY REVIEW from an article by Colonel Strome Galloway in the "Canadian Army Journal" October 1954.

"ONE of the first signs of education is the use of short, expressive English, instead of the muddled jargon of eight syllables which reflects the muddled mind," said Dr. Fieldhouse, a professor at McGill University.

And it was an eighteenth century scientist, Pascal, who wrote: "I hope you will pardon me for writing such a *long* letter, but I did not have the time to write a shorter one."

In these two statements, we have the keynotes of the Effective Writing Series at the Canadian Staff College. It is a matter of fact that most writing done by staff officers falls short of the required standard because the writers present papers which are full of muddled jargon and

do not take the time to write short, clear, understandable English.

The main weaknesses in written expression are that *simple, direct, brief* English is not used, but that fancy-worded, long-winded papers which are difficult to understand, tiresome to read, and incapable of achieving their aim are produced by 9 out of 10 students.

Nor is poorly written English the province of the Army officer alone. University professors and leading business executives join with senior Army officers in telling us that the greatest offenders against good writing today are not school children, but educated adults, people who, since they have left school or university, have allowed their written expression to

become so laden with unnecessary, pompous, empty, and abstract words; so full of padding and circumlocution that they have almost lost the art of communicating ideas to others. Why this should have come about is not easy to understand, but certainly among the reasons is the fact that it stems from an idea that long, involved writing shows education, dignity, and literary ability. This idea, I assure you, is quite wrong.

Before I get into the subject of my article in earnest, I want to point out *why* it is important that you do write what we call *effective English*.

First, the aim of all writing is to communicate ideas. If your writing fails to communicate the ideas it is supposed to, then it serves no purpose. If it even slightly confuses, it is doing a disservice, rather than no service at all. It may confuse because you, the writer, are incapable of, or too careless to bother, expressing yourself properly. It may confuse, not because your style of expression is perfectly clear to those of your own intellect, but because you are not clever enough to realize that there are others, including your readers, who need things stated simply.

Second, your written work is a mirror of your mind at the time you wrote it. More dreadful even than this, is the fact that it is a *permanent* reflection. As the Bible says: "That which is written is written." And in the *Rubyat of Omar Khayyam* we find:

The moving finger writes; and, having
writ,
Moves on; Nor all your Piety nor Wit
Shall lure it back to cancel half a Line,
Nor all your Tears wash out a Word of
it.

The brand of effective English which we want to develop at the Canadian Staff College is that which has four main qual-

ities. These qualities are: clarity, conciseness, simplicity, and accuracy.

Clarity.—Since the aim of all writing is to *communicate ideas*, it is perfectly obvious that to be effective in this respect it must be *clear*. If it is not clear, then there is really no purpose in writing. Words are the messengers which convey our ideas to others. Therefore, we must choose our words and arrange our words so that those who receive them from us are able to understand exactly what we mean. Remember, if a staff officer has all the knowledge and thinking ability in the world and cannot communicate his ideas in writing, his knowledge is in doubt and his thinking is of little use.

Conciseness.—It may not be important to the novelist who writes to give entertainment by means of long, drawn out narratives and descriptive passages; but to the staff officer it *is* important. Neither he, nor his reader, has the time to flounder through long, involved writing trying to find the hidden jewel of meaning which nestles among excess verbiage like a pearl in a sack of wool.

Simplicity.—This is the key to everything, I think. If we are simple, we have a much greater chance of being understood than if we are not. If we use simple words, we can cut out explanatory phrases. If we use short, simple sentences, we can steer clear of the pitfalls of punctuation. If we strive for simplicity in construction, we need not fear grammatical errors to the same degree.

Accuracy.—The staff officer must be accurate in his writing, as in all other phases of his work. If we are guilty of inaccurate statements in our writing, we are going to create the need for letters of inquiry, letters correcting mistaken impressions—we are going to communicate *wrong ideas*. Thus, our writing, no matter how clear, how concise, and how simple it has been, is not going to be effective unless it is accurate.

Watchwords

Our watchwords, therefore, are: clarity, conciseness, simplicity, and accuracy. Few of us are competent enough with the pen to adorn our writing, to attempt oratorical phrases, to use what is sometimes called "the well-turned word" and the "well-rounded phrase," without obscuring our meaning, or without trespassing on the time available to the recipient of our writings. Leave these niceties to the experts in language; let us speak "plain and to the point like an honest man and a soldier."

If you are really bad, you will probably be writing this way: "It is with considerable pleasure that I inform you that experience has provided us with undoubted proof that the process of osculation is one which renders us capable of achieving an extreme degree of amusement."

After 11 months of instruction here, you will write: "Kissing is fun."

That is *effective* English: the verbiage preceding it will get you nowhere.

Or, you might have written: "The proprietor of an agricultural establishment proceeded to extract the lactic secretion contained in the mammary glands of a female quadruped of the bovine species." What you mean, of course, is: "A farmer milked a cow."

It was Anatole France who said: "There are three requisites for all good writing; the first is clarity, the second is clarity, and the third is clarity." The easiest way to achieve clarity is to be concise, simple, and accurate. The enemies of these four qualities are: pompous and unfamiliar words; abstract words; padding or verbosity (too many words); circumlocution (the roundabout procession of words); the passive voice (the weak arrangement of words); clichés and slang (wornout, hackneyed words and careless words of doubtful meaning); and wrong words (misused words).

Remember, words are of no use except to convey ideas. They are not used to fill

gaps in our thinking, to obscure meaning, or to show our readers how many words we know and how badly we can use them. Your choice and arrangement of words are the basis of your writing. They are the agents which will do your bidding. After all, phrases, sentences, and paragraphs are only platoons, companies, and battalions of words marshaled to express your thoughts. It is the *words* that count in the first place. It is the poor selection and arrangement of words which make your phrases, sentences, and paragraphs incapable of carrying out their task, which is to express your ideas.

Choice of Words

Here are six rules for the *choice* of words:

1. *Prefer the familiar word to the far-fetched*: "start" or "begin," not "initiate"; "make" not "render"; and "send" not "transmit."

2. *Use concrete words not the abstract*: Do not write: "The unfortunate situation in China." Do write: "The *flood* in China"; "The *famine* in China"; or "The *war* in China."

Your readers can *see* or *feel* these things. "Unfortunate situation" is not concrete: it is vague, indefinite.

3. *Use the single word instead of the circumlocution*: "no," not "the answer is in the negative"; "scarce," not "in short supply"; "some," not "a percentage of" or "a proportion of."

4. *Prefer the short word or words to the long*: "carry out," rather than "implement"; "died before," rather than "pre-deceased"; "able to walk," rather than "capable of locomotion"; "please tell me," rather than "will you be good enough to advise me"; "as soon as possible," not "with the minimum of delay"; "go," not "proceed"; and "so," not "consequently."

5. *Prefer the Saxon word to the Romance*: the Romance is usually pompous or unfamiliar: "steal," not "purloin";

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"many," not "numerous"; "ground," not "terrain"; "brave," not "gallant"; and "theft," not "larceny."

6. *Use words which mean what you mean:* Do not write *liable* if you mean *likely*. *Liable* means that your subject is going to suffer something *prejudicial*. He is *liable* to a fine for speeding. He is *likely* to get his majority. Do not write *practical* if you mean *practicable*. *Practical* is the opposite to *theoretical*. It means *useful* in *practice*. *Practicable* means capable of being carried out in action. The lawn mower is *practical*, but it is not *practicable* to use it on this slope.

7. Do not write *affect* when you mean *effect*. *Effect* is both a *noun* and a *verb*. *Affect* is only a *verb*. You can say, "the *effect* was startling" (noun). "My plans are *affected*" is almost the exact opposite to "my plans are *effected*" (verbs). In one, (affected) they were met by an obstacle; the other (effected), they were *carried out*.

Now, I do not mean, for a minute, that you must not use some long, elegant, or Romance words. There may be that place, or this, when the choice falls on the pretty word as the best word. But, generally speaking, for the purposes of *military* writing, they are not as easily understood, not as brief, not as easily worked into the fabric of your writing as the short, concrete, Saxon, single words. If you habitually use them, your writing becomes involved, woolly, and lengthy; in other words, you are in danger of losing *clarity*.

When we do not strike down the enemies of clarity, we find that we are writing to a greater or lesser degree a form of English known as "gobbledygook." That is the type of writing which includes empty words, unfamiliar words, pompous words, verbosity, the weak passive voice, and circumlocution. And when we fall into this morass, we automatically become entangled with the additional difficulties of

spelling errors, punctuation errors, faulty sentence construction, and long and vague paragraphs. I will have more to say about "gobbledygook" later.

Abstract versus Concrete

When you use an abstract word where you *could* use a concrete word, you are handicapping yourself in your task of making yourself understood.

What are abstract words? What are concrete words?

Well, abstract words are those words separated from matter, like "*thought*," whereas concrete words are those words which are things, rather than qualities: like "*brain*." Some familiar abstracts are: "*situation*," "*condition*," and "*position*."

Here is an abstract: "The situation in regard to gold is causing alarm."

What situation, you ask? In what regard? Why alarm? The sentence may mean several things to several different people, but if we use the concrete, we say "Gold is scarce," then everyone knows what we mean. Note, also, how *concise* the statement becomes when it is concrete; how *simple*, how *clear*, and *accurate*. It obeys all four qualities of effective writing.

Again, the abstract: "Weather conditions are not good."

What conditions? What have they to do with the weather? Is the weather fair?

Concrete: "The weather is bad."

Beware of such words as "*situation*," "*position*," and "*conditions*." Avoid the words which end in "tions."

Mr. Winston Churchill in a radio address in 1940 wanted his listeners to understand him. He did not say: "The position in regard to France is extremely serious." His listeners would wonder "what position," "in what regard," "serious," "how serious?" He said: "*The news from France is bad*." Everybody knows what "news" is; and everybody knows what "bad" means.

Force your reader to touch, feel, and see what you are talking about:

"Man" is concrete. It is a physical object.

"Humanity" is abstract. It is a quality—the quality possessed by man. You cannot see "humanity," but you can see "man."

We need abstract nouns, but we should not use them to excess. There are two main reasons:

1. Abstractions cause statements to be made in a roundabout instead of a direct way and the meaning is more difficult to grasp.

2. Abstract nouns have less precise meanings than concrete ones. They should be avoided if you want your meaning to be plain.

One more example: "Dealing with the egg position, he said it exceeded all expectations." What is an "egg position"? Do you know? I do not. How can "a position" "exceed all expectations"? I think that what he meant was: "Eggs will be more plentiful than expected." That is a concrete statement.

Verbosity

Some good examples of this very common fault in writing are phrases like: "It will be noted that . . ."; "It will be appreciated that . . ."

Instead of writing, "It will be noted that tomorrow is Sunday and the stores will be closed," all we need write is, "Tomorrow is Sunday and the stores will be closed." What does "It will be noted that" add? The answer is *nothing*, yet the type of writer who puts in these empty words once will do it a dozen times and in a paper of three or four pages we will find six or seven lines which mean *nothing*. Is that effective writing? There are other choice phrases: "You will moreover observe that . . ."; "You will moreover observe that women are beautiful."

This phrase is almost an insult. The

writer is assuming that the last part of the sentence "*women are beautiful*" cannot be understood by the reader, that the reader has not this power of discernment.

Then there are: "I am further to point out . . ."; "I would also add . . ."

Away with such nonsense. And the same with such phrases as: "in relation to"; "in regard to"; "in connection with"; and "in the case of."

What do all these things mean? The answer is *nothing*.

Padding comes partly from a feeling that wordiness is an ingredient of politeness and that a blunt statement is crude, if not rude. There is *some* truth in this; but it is a matter of degree. For the most part, however, military prose calls for plainness rather than elegance. The false dignities which surround much official writing (or should I say writers) seem to demand a certain verbosity. Naked truth is considered indecent by some. They think it must be clothed in wrappings of woolly words and phrases. Men who write with padding as their hallmark are gilders of the lily.

One last example, the ubiquitous "in order." "*In order* to tell you the news quickly I phoned"—"in order," like the artillery, is everywhere, but unlike the artillery it serves no purpose. Strike it out ruthlessly. *Never* write "in order"—"to" is sufficient. "To tell you the news quickly, I phoned."

Other choice bits of padding are: "for your information," and "for your benefit."

Example: "I have received your letter of 4 December, and for your information the following extract from regulations under the Act is quoted for your benefit."

It is obvious that it is "for your information" and "for your benefit." Therefore, to state the obvious is a waste of words.

Here we have the roundabout procession of words—the *indirect* statement. Circumlocution is that quality of writing

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which develops when we use the *passive voice*, and the prepositions which I have mentioned in my remarks on padding, such as: "as regards"; "as to"; and "in respect of."

Here is a circumlocution: "I should be glad if you would be good enough to confirm the settlement and it would be of assistance to me if you are prepared to state the terms thereof and the approximate proportion of the full claim which such settlement represents." (Indirect—43 words.)

The same statement: "Will you please confirm the settlement. It would help me if you tell me its terms, and how the amount compares with your full claim." (Direct—25 words.)

Passive Voice

This is the only real sally which I make into the realm of grammar. As you probably recall from your school days there are two voices: The active voice and the passive voice.

The active voice is where the *subject* performs the action.

Example: "The colonel kicked the wine steward."

1. "Colonel"—subject; "kicked"—verb; and "wine steward"—object. When, however, the subject *suffers the action* the verb is said to be in the passive and we call it the *passive voice*.

Example: "The wine steward was kicked by the colonel."

2. "Wine steward" becomes the subject: "colonel" is merely the agent of the verb.

The passive voice is generally agreed to be weak. Usually there is an increase in words or verbosity, a lack of power; the act is not as *easily pictured* by the mind of the reader. The verb has no strength.

Other examples are:

Active: "John kissed Mary." (smack)
You can *almost* hear it.

Passive: "Mary was kissed by John."

The foregoing is a rather dull statement.

Active: "He gave me a book."

Passive: "A book was given to me by him." (Wordy, woolly.)

These sentences in the passive voice are not as clear and strong; that is, as *effective* as those in the active voice. Of course, some variety may be required, but use plenty of the active voice in preference to the passive.

Clichés and Slang

Clichés and slang are to be avoided in writing, even more so than in speech. Clichés are hackneyed, wornout, over-worked words or phrases which do little but show the writer's barren brain in full relief. They must be avoided. "Break the ice," "cry over spilt milk," "tender mercies," "the acid test"—these may have been good in the days of their youth, but now in their decrepitude they merely annoy readers and point out that their user is without adequate reserves of good English. They are the *volksgradiers* of our army of words. When we use these battered old veterans, we are almost defeated.

Slang may be acceptable in conversation, but it has little place in writing. It is like a risqué story; it may go over in intimate, face-to-face conversation, but when it is committed to paper, it loses much of its spice and only condemns the writer in the eyes of those who may not have the same sense of humor or the same lack of propriety as he has. Two familiar examples: "laid on," when you mean "arranged" or "organized"; and "tidied up," when you mean "completed."

Now may I offer some suggestions on a few points of construction. I am no grammarian; I really know nothing about it. However, clarity and conciseness can be helped by such things as: punctuation, arrangement, length of sentences, and length of paragraphs.

This is a subject which causes much argument even among the experts. If you

make a practice of writing short, simple sentences, you need not worry too much about it. Remember, punctuation is meant to give *clarity in meaning*. The comma is the most misused of all punctuation marks. When in doubt, do not use it. Beware of semicolons. More often than not you can make a new sentence. Overuse of the semicolon can get you into involved sentences which cannot be understood. The test of really good writing is *can it be readily understood with a minimum of punctuation?* And in *your* writing do not use dashes, they are the "word-whiskers" of the written page.

Arrangement

Proper arrangement is usually the result of constant practice, plus a little forethought before committing your words to paper. Do not confuse people by writing sentences like this:

"He was appointed commander in chief although he had limited military experience and no naval."

That is not only *bad English*, it is a phenomenon.

Length of Sentences

How long should a sentence be? People often ask for yardsticks here. Well, Rudolph Flesch, an expert in writing, defines "standard" English as that level of writing found in *Reader's Digest*, and here sentences average 17 words. In Queen Elizabeth I's day, the average written sentence ran to about 45 words, the Victorian sentence to about 29 words, and ours to 20 or less. In these days of haste, we are becoming briefer. Remember, again, that *short* sentences avoid the pitfalls of grammar and punctuation, and therefore obscurity of meaning. Read some Elizabethan writing and you will know what I mean. However, some variety in length of sentences is desirable so that the reader is not jolted and jerked continuously. Too much starting and stopping makes unpleasant reading.

A paragraph has been described as a "mindful." It is a group of sentences which relate one to another. When that which the succession of sentences have discussed can be boxed up as a "mindful," stop your paragraph and start a new one. Do not ask your reader to grasp too much without a break. The paragraph is *not* a unit of *length*, but a unit of *thought*. Do *not* contain in one paragraph sentences which do not have unity of thought among themselves.

A paragraph should be a complete development of a topic. The average length of a paragraph in a piece of serious writing is about 150 words. It should not exceed 300 words. When you see several paragraphs on a page, or a paragraph of a page or more in length, you should look for *lack of unity*—undeveloped topics in the first case, or a multitude of topics in one paragraph in the second case.

If you practice conciseness, you can probably say all you need about a topic in under 150 words. But, "be ye moderate in all things": avoid a succession of short, choppy paragraphs if you want your ideas to flow like a golden stream of wisdom.

Conclusion

In summary, I will return to the descriptive word "gobbledygook." Gobbledygook is that form of written English which results when people do not take the advice I have just been giving them. It has been defined as "a written output obscurely constructed, full of tiresome phrases, and encumbered with many ill chosen combinations of words." It is a legacy we have inherited from the Victorian Age. It is as much out of date as button boots and bustles. In 1890, it *might* have been acceptable to write:

"It is with regret that I beg to advise you that the answer must, of necessity, be in the negative."

But today our surreys have no fringe

on top—neither should our writings. We must streamline our writing to keep up with modern conditions. We must learn to say "No";—tactfully, but not fearfully; briefly, not hidden in a maze of meaningless verbiage.

Those who think they appear rather well educated by using pompous, verbose English usually are afraid to say what they mean. They do not *communicate their ideas* so they can be readily understood. Their statements lack effect. They say: "Commit yourself to that place of unredeemable souls." That is not nearly as effective as "Go to hell."

These same people say: "in the initial stages," instead of "at first"; "circumstances which obtained prior to the outbreak of hostilities," instead of "matters before the war."

This type of English must be abandoned by every one of us. Never be guilty of "gobbledygook." It is not the hallmark of the literary giant; it is the brand on the brow of the unlettered pygmy.

There is just one more warning. Remember two things:

First: To whom am I writing?

Second: For whom am I writing?

Here it is where you will find the secret of whether or not it is permissible to deviate somewhat from the bald, simple English I have recommended; whether a certain indirectness is needed at the expense of conciseness. But, whatever you

do, be sure that you do not sacrifice clarity.

In conclusion, may I quote to you from Mika Waltari's, *The Egyptian*. This is a novel, the scene of which is laid 2,000 years before Christ. A wise man counseling a would-be soldier, said:

A warrior need not write, only fight. If he could write, he would be an officer with command over the most valiant, whom he would send before him into battle. Anyone who can write is fit for command, but a man who cannot scribble pot-hooks will never have even so many as a hundred under him. What joy can he take in gold chains and honors when it is the fellow with the reed pen in his hand who gives the orders? Thus it is, and thus it will be—and so, my lad, if you would command men and lead them, learn to write. Then those with the gold chains will bow down before you, and slaves will carry you in a chair to the field of battle.

Now, in the twentieth century you may not achieve the privilege of being carried to the field of battle in a chair borne by slaves, but, you may, if you can write, ride to the field of battle in a well-heated, well-lighted, comfortable caravan.

Learn to write. Learn to write with clarity, conciseness, simplicity, and accuracy. It will make it possible for you to serve the Army as staff officers with increased efficiency. It may even mean that your own career will be the greater.

The business of war is getting so technical and so complicated that it requires a constantly higher degree of intelligence to operate the weapons and to do the military job that the American people expect to be done. And we need that kind of people in all lines. We have to be sure the quality is there today in order to produce the leaders of tomorrow.

Secretary of the Army Robert T. Stevens

BOOKS OF INTEREST

TO THE MILITARY READER

CARNOT 1753-1823. By Major Sidney J. Watson, Royal Engineers. The Bodley Head, London. \$2.50.

By LT COL DANIEL A. RAYMOND, CE

Major Watson has written an extremely interesting biography of an impressive figure of French history who played a vital role in a career which spanned the French Revolution, the rise and fall of Napoleon, the First Bourbon Restoration, Napoleon's fateful Hundred Days, and the second Bourbon return.

Carnot—soldier, scholar, philosopher, mathematician, fortifications expert—weaves throughout this fateful period in and out of favor with the vacillating governments of the day. Alternately he serves in the highest echelons of the government or undergoes self-imposed exile in jeopardy of his life. As an engineer captain, even before the entrance of Napoleon on the scene, he was the architect of victory who revitalized the Army of France and directed its 12 field armies to victory over the enemies of France from without who sought to countermand the revolution. He was the man who gave Napoleon his first independent command; to whom Napoleon at his zenith said, "You know better than I how to draw up a plan of campaign, but I know better than you how to win a battle."

Carnot served no end other than a selfless and devoted life of service to his country. His forthrightness caused him to incur the wrath of his superiors and contemporaries and to be banished from high position and favor, only to be recalled

when it was determined they could no longer dispense with his services.

The book is a valuable contribution of the history of the Napoleonic era—the first biography in English of the amazing Carnot. It provides an interesting look at the background direction and support of Napoleon's military efforts, so often overlooked in the bright light cast by his field campaigns. It is recommended reading to the student of French history of this time, and to the military student of the Napoleonic Wars. It sheds new light on the personalities, powerful forces at work, and the fateful events of this stirring period in world history.

SEVENTH CONTINENT. By Arthur Scholes. 226 Pages. The British Book Centre, Inc., New York. \$4.50.

By MAJ JOHN H. CUSHMAN, *Inf*

Antarctica, the Seventh Continent, has long held out a powerful lure to the Australians, understandably so when one realizes that the continent lies closer to Melbourne than does Hawaii to San Francisco. This book describes the part Australians and New Zealanders have played in the exploration of that "sinister and beautiful continent." It is an interesting account of those unlimelighted men whose curiosity led them to undergo the hardest of trials, just to find out what was there.

Because of its specific slant, however, the book lacks information for which the military reader would likely be searching, if his knowledge of Antarctica were limited.

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SUNK. By Mochitsura Hashimoto. (Translated by Commander E. H. M. Colegrave, Royal Navy, Retired.) 276 Pages. Henry Holt & Co., New York. \$3.95.

BY CAPT RALPH J. BAUM, USN

Sunk is the story of the Japanese Submarine Fleet during the operations against the United States in World War II, and is written by one of the few Japanese submarine commanders who survived the hostilities. It tells how the initial great hopes of the submarine service and the high command were dashed by the relative ineffectiveness of the submarines and their midget craft at Pearl Harbor as compared to the successes of the carrier-based planes. From then on the submarine force was hamstrung by the lack of confidence and interest on the part of the Japanese High Command which resulted in a deficiency in modern equipment such as radar and torpedoes. The force was kept from making combat patrols against our Merchant Marine and used for missions for which it was not designed.

Sunk is a story of a capable weapon that was improperly used, not by the men who had to fight with them, but by the leaders in the homeland. It is an interesting, well-documented book which gives the reader an insight into Japanese psychology during wartime.

HUGH ROY CULLEN. By Ed Kilman and Theon Wright. 376 Pages. Prentice-Hall, Inc., New York. \$4.00.

BY IVAN J. BIRRER, Ph.D.

This volume is the story of the fabulous Texas millionaire and philanthropist. It is "rags to riches" in the best sense. As its subtitle, "A Story of American Opportunity," suggests, it will prove an inspiration to any reader.

THE TREATMENT OF THE YOUNG DELINQUENT. By J. Arthur Hoyles. 273 Pages. Philosophical Library, New York. \$4.75.

THE COMMUNIST MENACE IN MALAYA. By Harry Miller. 248 Pages. Frederick A. Praeger, New York. \$3.50.

BY MAJ JOHN J. EARLEY, Inf

This is not a hidden title of an adventure book or romantic novel; it is the down-to-earth story of the Communist menace in Malaya. Here are no fancy passages or clever words, but ordinary everyday language spelling out the war that has been waged for 6 long years by the Malayan natives and their British protectors against the Communists. It brings the complete story, that is suggested by the newspapers, to light. It tells of the events leading up to the outbreak of Malaya's "emergency," the country's narrow escape in the early weeks of the war, and the drastic measures that had to be taken to fight back.

One of the most enlightening effects of the book is how it very systematically shows the extensive Communist organization that exists in Asia and the Far East, and what the program and aims are of this organization. Any person who is not fully convinced of the world domination desires of the Communist-led nations would do well to read this book carefully.

All readers should find this story of great interest. It is not only a current story, in that the war is still going on, but it will clear up any ideas as to the extent of this war and what it means to the people of the free world.

UNDERSTANDING THE JAPANESE MIND. By James Clark Maloney. 252 Pages. Philosophical Library, New York. \$3.50.

THE WEB OF SUBVERSION. By James Burnham. 248 Pages. The John Day Co., Inc., New York. \$3.75.

FLYING SAUCERS ON THE ATTACK. By Harold T. Wilkins. 329 Pages. The Citadel Press, New York. \$3.50.

THE BORMANN LETTERS. Edited by H. R. Trevor-Roper. 198 Pages. The British Book Centre, Inc., New York. \$3.75.

BY LT COL WILLIS B. SCUDDER, *Arty*

To most people of the Allied nations and to a considerable number of Germans, the name of Martin Bormann was unknown until the fading days of the Third Reich. From that time on, the man has emerged as having been a power, second only to Adolph Hitler, in governing wartime Germany. Indeed, there are many who believe that Martin Bormann's grip on the Nazi Party machinery exceeded even that of the Reichsführer.

This volume is a collection of private letters between this powerful bureaucrat and his wife. It is a record of their correspondence between 1943 and April 1945, and gives the reader an idea of life in Germany during the latter years of the war. It may appear strange that the letters of a high government functionary would reveal a picture of daily existence in the Reich, but the reader will find that at least in his letters Martin Bormann played, or was, a devoted father and husband. His are simple letters, concerned with his wife's health and the safety of the family. At other times his letters provide a commentary on the intrigues that surrounded Hitler in the last years of the war.

THE UNTOLD STORY OF DOUGLAS MACARTHUR. By Frazier Hunt. 533 Pages. The Devin-Adair Co., New York. \$5.00.

BY MAJ JOHN N. HIGHLEY, *USAF*

This is the full life story of one of our most famous generals, a story for which the American people have been waiting a long time. Here are the untold facts concerning one of the least understood men of our time, but whom the pages of history have already established as one of the greatest.

In one way it depicts the life of a

Br. Col.
brilliant military leader from his childhood, through West Point, through many military campaigns, including three wars, and eventually into the years of semi-retirement. In another way it is the story of a large part of American history, not the history one would receive from texts, but the real behind-the-headline facts that are so often politely ignored in the scholastic or political versions.

This is a book for all Americans to read because it will explain many of the confusing facts heretofore only partially told. It is a must for military men because it frankly points out the trials and tribulations that many will have to face during their careers. It should be most enjoyable for Army men because from first to last it is the story of a man who has devoted his entire life to the long gray line.

ACTION WITH THE SEAFORTHS. By Charles Monroe Johnson. 342 Pages. Vantage Press, Inc., New York. \$3.50.

BY LT COL KARL W. GUSTAFSON, *MPC*

Mr. Johnson, an American from Tennessee, joins an old and distinguished Canadian regiment shortly after the start of World War II. This is his story of some 5 years of service with the Seaforth Highlanders. The narrative follows Johnson through his training days in Canada, to England, Sicily, and Italy where his regiment saw its hardest fighting.

The book is replete with wartime incidents which could be known but to the private soldier. The author vividly describes these incidents in a manner that allows the reader an insight into a soldier's outlook on such diverse subjects as war, cowardice, political philosophy, and sex. The author and the men of his unit express very definite opinions on each of these subjects.

AERODYNAMICS. By Theodore von Kármán. 203 Pages. Cornell University Press, New York. \$4.75.

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